		CTC I advanced member of RWTÜV group							
Bundesnetzagentur	Bundesnetzagentur TEST REPORT Deutsche Test report no.: 1-5253/17-01-03 Deutsche Deutsche								
BNetzA-CAB-02/21-102									
Testin	g laboratory	Applicant							
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according to DIN EN Deutsche Akkreditierung The accreditation is v	valid for the scope of testing the accreditation certificate with	Manufacturer Ingenico Group 9 Avenue de la Gare Rovaltain 26958 Valence Cedex 9 / FRANCE							
	Test star	ndard/s							
47 CFR Part 15	Title 47 of the Code of Federal devices	Regulations; Chapter I; Part 15 - Radio frequency							
RSS - 247 Issue 2	Digital Transmission Systems Licence - Exempt Local Area N	(DTSs), Frequency Hopping Systems (FHSs) and Network (LE-LAN) Devices							
RSS - Gen Issue 4	General Requirements and Inf	elecommunications Radio Standards Specifications - ormation for the Certification of Radio Apparatus							
For further applied test s	For further applied test standards please refer to section 3 of this test report.								
	Test Item								
Kind of test item:	Payment Terminal								
Model name:	Lane/5000 CL/Eth/WiFi/BT								
FCC ID:	XKB-L5000CLWIBT	in the second se							
IC:	2586D-L5000CLWIBT								
Frequency:	UNII bands: 5150 MHz to 5250 MHz; 5250 MHz 5470 MHz to 5725 MHz; 5725 MHz	to 5850 MHz							
Technology tested:	WLAN	1 1 2 3 3 0 1 4 1 5 6 6 0							

Power supply:115 V AC & 8 V DC by mains adapterTemperature range:0°C to +40°C

Integrated PCB antenna

This test report is electronically signed and valid without handwritten signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

Test report authorized:

Antenna:

Andreas Luckenbill Lab Manager Radio Communications & EMC

Test performed:

Mihail Dorongovskij Lab Manager Radio Communications & EMC



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2 General information

2.1 Notes and disclaimer

The test results of this test report relate exclusively to the test item specified in this test report. CTC advanced GmbH does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item.

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2.2 Application details

Date of receipt of order:	2017-11-13
Date of receipt of test item:	2018-01-22
Start of test:	2018-01-24
End of test:	2018-02-10
Person(s) present during the test:	-/-

2.3 Test laboratories sub-contracted

None

3 Test standard/s and references

Test standard	Date	Description
47 CFR Part 15	-/-	Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices
RSS - 247 Issue 2	February 2017	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence - Exempt Local Area Network (LE- LAN) Devices
RSS - Gen Issue 4	November 2014	Spectrum Management and Telecommunications Radio Standards Specifications - General Requirements and Information for the Certification of Radio Apparatus

Guidance	Version	Description
UNII: KDB 789033 D02	v02r01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E American national standard for methods of measurement of radio-
ANSI C63.4-2014	-/-	noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz
ANSI C63.10-2013	-/-	American national standard of procedures for compliance testing of unlicensed wireless devices





		T _{nom}	+22 °C during room temperature tests
Temperature	:	T _{max}	No tests under extreme temperature conditions required.
		T _{min}	No tests under extreme temperature conditions required.
Relative humidity content	:		40 %
Barometric pressure	:		998 hpa
		V _{nom}	115 V AC & 8 V DC by mains adapter
Power supply	:	V _{max}	No tests under extreme voltage conditions required.
		V _{min}	No tests under extreme voltage conditions required.

5 Test item

5.1 General description

Kind of test item :	Payment Terminal				
	-				
Type identification :	Lane/5000 CL/Eth/WiFi/BT				
HMN :	-/-				
PMN :	Lane/5000				
HVIN :	Lane/5000 CL/Eth/WiFi/BT				
FVIN :	-/-				
S/N serial number :	Radiated unit: 170899913261044599999913 170899913261044599999916 (Only used for receiver spurious emission measurements) Conducted unit: 170899913261044599999920				
HW hardware status :	01				
SW software status :	OS_038105_HTB_0086; RF test mode				
Frequency band :	UNII bands: 5150 MHz to 5250 MHz; 5250 MHz to 5350 MHz; 5470 MHz to 5725 MHz; 5725 MHz to 5850 MHz				
Type of radio transmission : Use of frequency spectrum :	OFDM				
Type of modulation :	(D)BPSK, (D)QPSK, 16 – QAM, 64 – QAM				
Number of channels :	20 MHz: 24 40 MHz: 11				
Antenna :	Integrated PCB antenna				
Power supply :	115 V AC & 8 V DC by mains adapter				
Temperature range :	0°C to +40°C				

5.2 Additional information

The content of the following annexes is defined in the QA. It may be that not all of the listed annexes are necessary for this report, thus some values in between may be missing.

Test setup- and EUT-photos are included in test report:

1-5253/17-01-01_AnnexA 1-5253/17-01-01_AnnexB 1-5253/17-01-01_AnnexD



6 Description of the test setup

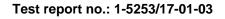
Typically, the calibrations of the test apparatus are commissioned to and performed by an accredited calibration laboratory. The calibration intervals are determined in accordance with the DIN EN ISO/IEC 17025. In addition to the external calibrations, the laboratory executes comparison measurements with other calibrated test systems or effective verifications. Weekly chamber inspections and range calibrations are performed. Where possible, RF generating and signaling equipment as well as measuring receivers and analyzers are connected to an external high-precision 10 MHz reference (GPS-based or rubidium frequency standard).

In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Lab/Item).

Agenda: Kind of Calibration

- k calibration / calibrated
- ne not required (k, ev, izw, zw not required)
- ev periodic self verification
- Ve long-term stability recognized
- vlkI! Attention: extended calibration interval
- NK! Attention: not calibrated

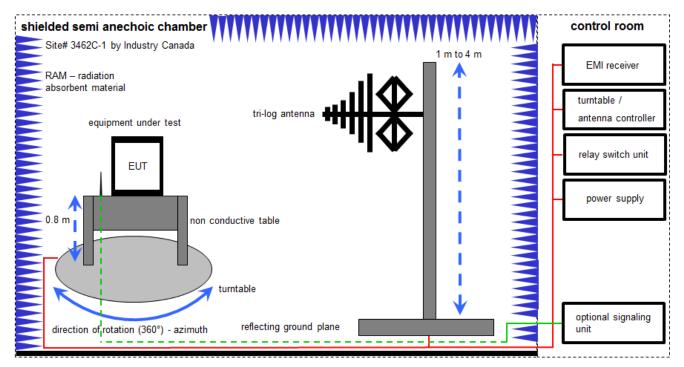
- EK limited calibration
- zw cyclical maintenance (external cyclical maintenance)
- izw internal cyclical maintenance
- g blocked for accredited testing
- *) next calibration ordered / currently in progress



6.1 Shielded semi anechoic chamber

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 30 MHz to 1 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas are conform to specifications ANSI C63. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test setups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received. The wanted and unwanted emissions are received by spectrum analyzers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63.

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Measurement distance: tri-log antenna 10 meter

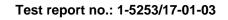
FS = UR + CL + AF

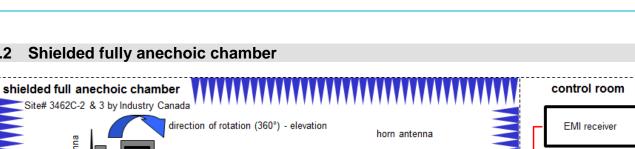
(FS-field strength; UR-voltage at the receiver; CL-loss of the cable; AF-antenna factor)

Example calculation:

FS [dBµV/m] = 12.35 [dBµV/m] + 1.90 [dB] + 16.80 [dB/m] = 31.05 [dBµV/m] (35.69 µV/m)

No.	Lab / Item	Equipment	Туре	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	Switch-Unit	3488A	HP	2719A14505	300000368	ev	-/-	-/-
2	A	Meßkabine 1	HF-Absorberhalle	MWB AG 300023	-/-	300000551	ne	-/-	-/-
3	A	EMI Test Receiver	ESCI 3	R&S	100083	300003312	k	15.12.2017	14.12.2018
4	А	Analyzer-Reference- System (Harmonics and Flicker)	ARS 16/1	SPS	A3509 07/0 0205	300003314	vIKI!	15.01.2018	14.01.2020
5	Α	Antenna Tower	Model 2175	ETS-Lindgren	64762	300003745	izw	-/-	-/-
6	А	Positioning Controller	Model 2090	ETS-Lindgren	64672	300003746	izw	-/-	-/-
7	А	Turntable Interface- Box	Model 105637	ETS-Lindgren	44583	300003747	izw	-/-	-/-
8	A	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	295	300003787	k	25.04.2016	25.04.2018

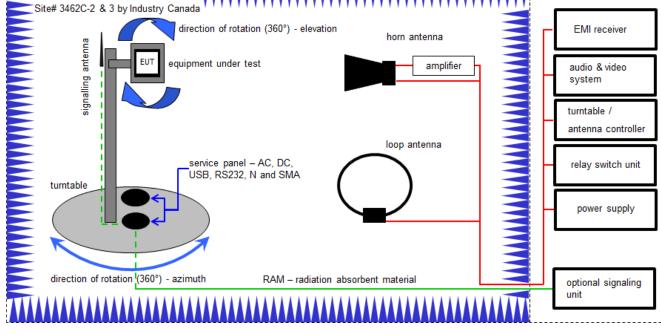




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6.2 Shielded fully anechoic chamber



Measurement distance: horn antenna 3 meter; loop antenna 3 meter

FS = UR + CA + AF

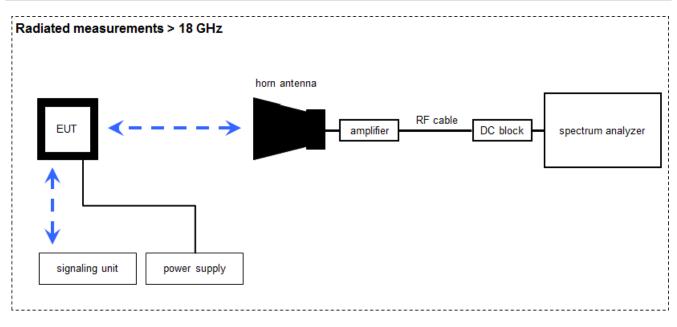
(FS-field strength; UR-voltage at the receiver; CA-loss of the signal path; AF-antenna factor)

Example calculation:

 $FS [dB\mu V/m] = 40.0 [dB\mu V/m] + (-35.8) [dB] + 32.9 [dB/m] = 37.1 [dB\mu V/m] (71.61 \mu V/m)$

No.	Lab / Item	Equipment	Туре	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	А	Active Loop Antenna 9 kHz to 30 MHz	6502	EMCO	2210	300001015	k	07.07.2017	06.07.2019
2	A, B, C	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev	-/-	-/-
3	B, C	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	9107-3697	300001605	vIKI!	14.02.2017	13.02.2019
4	A, B, C	Switch / Control Unit	3488A	HP	*	300000199	ne	-/-	-/-
5	С	Band Reject filter	WRCG2400/2483- 2375/2505-50/10SS	Wainwright	11	300003351	ev	-/-	-/-
6	B, C	EMI Test Receiver 20Hz- 26,5GHz	ESU26	R&S	100037	300003555	k	20.12.2017	19.12.2018
7	С	Highpass Filter	WHK1.1/15G-10SS	Wainwright	3	300003255	ev	-/-	-/-
8	С	Highpass Filter	WHKX7.0/18G-8SS	Wainwright	19	300003790	ne	-/-	-/-
9	С	Broadband Amplifier 0.5-18 GHz	CBLU5184540	CERNEX	22049	300004481	ev	-/-	-/-
10	A, B, C	4U RF Switch Platform	L4491A	Agilent Technologies	MY50000037	300004509	ne	-/-	-/-
11	A, B, C	NEXIO EMV- Software	BAT EMC V3.16.0.49	EMCO	-/-	300004682	ne	-/-	-/-
12	A, B, C	PC	ExOne	F+W	-/-	300004703	ne	-/-	-/-

6.3 Radiated measurements > 18 GHz



Measurement distance: horn antenna 50 cm

FS = UR + CA + AF

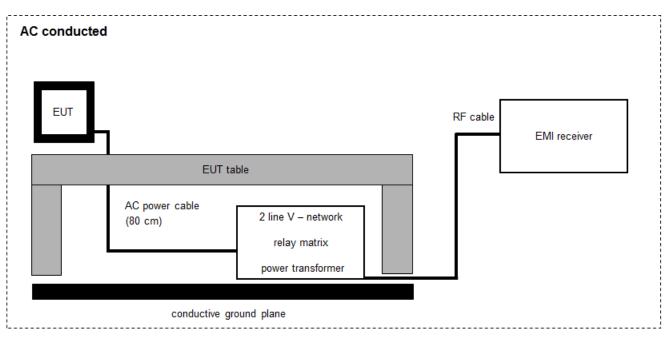
(FS-field strength; UR-voltage at the receiver; CA-loss signal path & distance correction; AF-antenna factor)

Example calculation:

 $FS [dB\mu V/m] = 40.0 [dB\mu V/m] + (-60.1) [dB] + 36.74 [dB/m] = 16.64 [dB\mu V/m] (6.79 \mu V/m)$

No.	Lab / Item	Equipment	Туре	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	А	Amplifier 2-40 GHz	JS32-02004000-57- 5P	MITEQ	1777200	300004541	ev	-/-	-/-
2	А	RF-Cable	ST18/SMAm/SMAm/ 48	Huber & Suhner	Batch no. 600918	400001182	ev	-/-	-/-
3	А	RF-Cable	ST18/SMAm/SMAm/ 48	Huber & Suhner	Batch no. 127377	400001183	ev	-/-	-/-
4	А	DC-Blocker 0.1-40 GHz	8141A	Inmet	-/-	400001185	ev	-/-	-/-
5	А	Horn Antenna 18,0- 40,0 GHz	LHAF180	Microw.Devel	39180-103-022	300001748	k	22.05.2015	22.05.2018
6	А	Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517	k	16.01.2018	15.01.2019





FS = UR + CF + VC

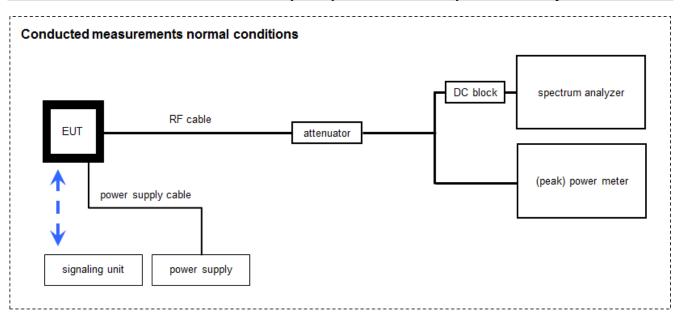
(FS-field strength; UR-voltage at the receiver; CR-loss of the cable and filter; VC-correction factor of the ISN)

Equipment table:

No.	Lab / Item	Equipment	Туре	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	Two-line V-Network (LISN) 9 kHz to 30 MHz	ESH3-Z5	R&S	893045/004	300000584	k	31.01.2017	30.01.2018
2	Α	RF-Filter-section	85420E	HP	3427A00162	300002214	k	-/-	-/-
3	A	AC- Spannungsquelle variabel	MV2616-V	EM-Test	0397-12	300003259	k	26.01.2018	26.01.2020
4	Α	Hochpass 150 kHz	EZ-25	R&S	100010	300003798	ev	-/-	-/-
5	Α	EMI Test Receiver	ESCI 3	R&S	100083	300003312	k	01.02.2017	31.01.2018

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6.5 Conducted measurements with peak power meter & spectrum analyzer



OP = AV + CA

(OP-output power; AV-analyzer value; CA-loss signal path)

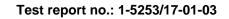
Example calculation:

OP [dBm] = 6.0 [dBm] + 11.7 [dB] = 17.7 [dBm] (58.88 mW)

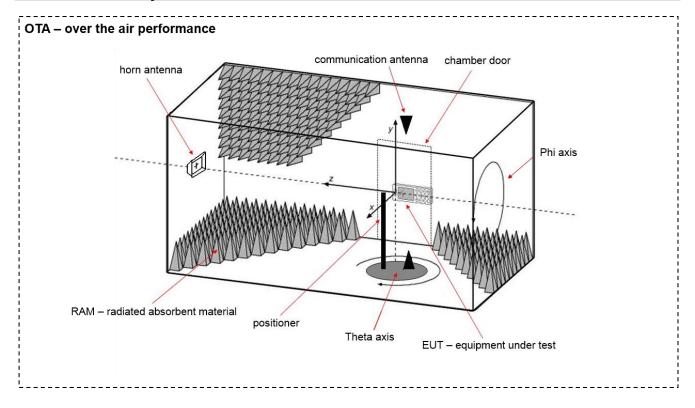
Equipment table:

No.	Lab / Item	Equipment	Туре	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	А	Isolating Transformer	RT5A	Grundig	12780	300001166	ev	-/-	-/-
2	А	Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517	k	16.01.2018	15.01.2019
3	A	PC-WLAN Tester	Intel Core i3 3220/3,3 GHz, Prozessor	-/-	2V2403033A45 23	300004589	ne	-/-	-/-
4	А	Teststand	Teststand Custom Sequence Editor	National Instruments GmbH	-/-	300004590	ne	-/-	-/-
5	Α	Power Sensor	NRP-Z81	R&S	100010	300003780	k	26.01.2017	25.01.2019
6	А	RF-Cable	ST18/SMAm/SMAm/ 60	Huber & Suhner	Batch no. 606844	400001181	ev	-/-	-/-
7	А	DC-Blocker 0.1-40 GHz	8141A	Inmet	-/-	400001185	ev	-/-	-/-
8	А	Coax Attenuator 10 dB 2W 0-40 GHz	MCL BW-K10- 2W44+	Mini Circuits	-/-	400001186	ev	-/-	-/-
9	А	Synchron Power Meter	SPM-4	СТС	1	400001294	ev	-/-	-/-

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6.6 Shielded fully anechoic chamber



No.	Lab / Item	Equipment	Туре	Manufacturer	Serial No.	INV. No.	Kind of Calibration	Last Calibration	Next Calibration
1	A	Splitter	15542	Mini Circuits	15542	40000086	ev	-/-	-/-
2	A	Splitter	42000	Anaren	4730	40000085	ev	-/-	-/-
3	A	Switch Unit	TS-RSP	R&S	100155	300003281	ev	-/-	-/-
4	А	CTIA-Chamber	CTIA-Chamber AMS 8500	ETS-Lindgren Finnland	-/-	300003327	ne	-/-	-/-
5	A	CTIA-Chamber - Positioning Equipment	CTIA-Chamber - Positioning Equipment	EMCO/2	-/-	300003328	ne	-/-	-/-
6	А	CTIA-Chamber - Software	CTIA-Chamber - Software	EMCO/2	-/-	300003328	ne	-/-	-/-
7	А	CTIA-Chamber - Antenna	3164-04	EMCO/2	00041915	300003328	ne	-/-	-/-
8	A	Spectrum Analyzer 9kHz - 30 GHz	FSP30	R&S	100623	300003464	vIKI!	01.02.2017	31.01.2019
9	A	Hygro-Thermometer	5-45 C, 20-100 rF	Thies Clima	-/-	40000089	ev	-/-	-/-



7 Sequence of testing

7.1 Sequence of testing radiated spurious 9 kHz to 30 MHz

Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer.
- If the EUT is a tabletop system, it is placed on a table with 0.8 m height.
- If the EUT is a floor standing device, it is placed directly on the turn table.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C 63.4.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measurement distance is 3 m (see ANSI C 63.4) see test details.
- EUT is set into operation.

Premeasurement*

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna height is 1 m.
- At each turntable position the analyzer sweeps with positive-peak detector to find the maximum of all emissions.

Final measurement

- Identified emissions during the pre-measurement are maximized by the software by rotating the turntable from 0° to 360°.
- Loop antenna is rotated about its vertical axis for maximum response at each azimuth about the EUT. (For certain applications, the loop antenna plane may also need to be positioned horizontally at the specified distance from the EUT)
- The final measurement is done in the position (turntable and elevation) causing the highest emissions with quasi-peak (as described in ANSI C 63.4).
- Final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. A plot with the graph of the premeasurement and the limit is stored.

*)Note: The sequence will be repeated three times with different EUT orientations.



7.2 Sequence of testing radiated spurious 30 MHz to 1 GHz

Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer.
- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C 63.4.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measurement distance is 10 m or 3 m (see ANSI C 63.4) see test details.
- EUT is set into operation.

Premeasurement

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna is polarized vertical and horizontal.
- The antenna height changes from 1 m to 3 m.
- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement

- The final measurement is performed for at least six highest peaks according to the requirements of the ANSI C63.4.
- Based on antenna and turntable positions at which the peak values are measured the software maximize the peaks by changing turntable position ± 45° and antenna height between 1 and 4 m.
- The final measurement is done with quasi-peak detector (as described in ANSI C 63.4).
- Final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit are recorded. A plot with the graph of the premeasurement with marked maximum final results and the limit is stored.



7.3 Sequence of testing radiated spurious 1 GHz to 18 GHz

Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer.
- If the EUT is a tabletop system, a 2-axis positioner with 1.5 m height is used.
- If the EUT is a floor standing device, it is placed directly on the turn table.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C 63.4.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measurement distance is 3 m (see ANSI C 63.4) see test details.
- EUT is set into operation.

Premeasurement

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna is polarized vertical and horizontal.
- The antenna height is 1.5 m.
- At each turntable position and antenna polarization the analyzer sweeps with positive peak detector to find the maximum of all emissions.

Final measurement

- The final measurement is performed for at least six highest peaks according to the requirements of the ANSI C63.4.
- Based on antenna and turntable positions at which the peak values are measured the software maximizes the peaks by rotating the turntable from 0° to 360°. This measurement is repeated for different EUT-table positions (0° to 150° in 30°-steps) and for both antenna polarizations.
- The final measurement is done in the position (turntable, EUT-table and antenna polarization) causing the highest emissions with Peak and RMS detector (as described in ANSI C 63.4).
- Final levels, frequency, measuring time, bandwidth, turntable position, EUT-table position, antenna polarization, correction factor, margin to the limit and limit are recorded. A plot with the graph of the premeasurement with marked maximum final results and the limit is stored.



7.4 Sequence of testing radiated spurious above 18 GHz

Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C 63.4.
- The AC power port of the EUT (if available) is connected to a power outlet.
- The measurement distance is as appropriate (e.g. 0.5 m).
- The EUT is set into operation.

Premeasurement

• The test antenna is handheld and moved carefully over the EUT to cover the EUT's whole sphere and different polarizations of the antenna.

Final measurement

- The final measurement is performed at the position and antenna orientation causing the highest emissions with Peak and RMS detector (as described in ANSI C 63.4).
- Final levels, frequency, measuring time, bandwidth, correction factor, margin to the limit and limit are recorded. A plot with the graph of the premeasurement and the limit is stored.

8 Measurement uncertainty

Measurement uncertainty						
Test case	Uncertainty					
Antenna gain	± 3 dB					
Power spectral density	± 1.5 dB					
Spectrum bandwidth	± 100 kHz (depends on the used RBW)					
Occupied bandwidth	± 100 kHz (depends on the used RBW)					
Maximum output power	± 1.5 dB					
Minimum emissions bandwidth	± 100 kHz (depends on the used RBW)					
Spurious emissions conducted	± 3 dB					
Spurious emissions radiated below 30 MHz	± 3 dB					
Spurious emissions radiated 30 MHz to 1 GHz	± 3 dB					
Spurious emissions radiated 1 GHz to 12.75 GHz	± 3.7 dB					
Spurious emissions radiated above 12.75 GHz	± 4.5 dB					
Spurious emissions conducted below 30 MHz (AC conducted)	± 2.6 dB					

9 Summary of measurement results

	No deviations from the technical specifications were ascertained
	There were deviations from the technical specifications ascertained
\square	This test report is only a partial test report. The content and verdict of the performed test cases are listed below.

CTC I advanced

TC Identifier	Description	Verdict	Date	Remark
RF-Testing	CFR Part 15 RSS 247, Issue 2	See table	2018-02-21	-/-

Test specification clause	Test case	Temperature conditions	Power source voltages	с	NC	NA	NP	Remark
-/-	Output power verification (cond.)	Nominal	Nominal		-/	-		Declared
-/-	Antenna gain	Nominal	Nominal		-/	-		Declared
U-NII Part 15	Duty cycle	Nominal	Nominal		-/	-		-/-
\$15.407(a) RSS - 247 (6.2.1.1) RSS - 247 (6.2.2.1) RSS - 247 (6.2.3.1) RSS - 247 (6.2.3.1)	Maximum output power (conducted & radiated)	Nominal	Nominal	\boxtimes				-/-
§15.407(a) RSS - 247 (6.2.1.1) RSS - 247 (6.2.2.1) RSS - 247 (6.2.3.1) RSS - 247 (6.2.4.1)	Power spectral density	Nominal	Nominal	\boxtimes				-/-
RSS - 247 (6.2.4.1)	Spectrum bandwidth 6dB bandwidth	Nominal	Nominal	\boxtimes				-/-
§15.407(a) RSS - 247 (6.2.1.2)	Spectrum bandwidth 26dB bandwidth	Nominal	Nominal	\boxtimes				-/-
RSS Gen clause 6.6	Spectrum bandwidth 99% bandwidth	Nominal	Nominal	-/-				-/-
§15.205 RSS - 247 (6.2.1.2) RSS - 247 (6.2.2.2) RSS - 247 (6.2.3.2) RSS - 247 (6.2.4.2)	Band edge compliance radiated	Nominal	Nominal	\boxtimes				-/-
\$15.407(b) RSS - 247 (6.2.1.2) RSS - 247 (6.2.2.2) RSS - 247 (6.2.3.2) RSS - 247 (6.2.3.2)	TX spurious emissions radiated	Nominal	Nominal	\boxtimes				-/-
§15.109 RSS-Gen	RX spurious emissions radiated	Nominal	Nominal	\boxtimes				-/-
§15.209(a) RSS-Gen	Spurious emissions radiated < 30 MHz	Nominal	Nominal	\boxtimes				-/-
§15.107(a) §15.207	Spurious emissions conducted emissions < 30 MHz	Nominal	Nominal	\boxtimes				-/-
§15.407 RSS - 247 (6.3)	DFS	Nominal	Nominal		-/	-		See report 1-5253/17-01-04

Notes:

C:	Compliant	NC:	Not compliant	NA:	Not applicable	NP:	Not performed
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10 Additional comments

Reference documents:	DFS report: 1-5253/17-01-04					
Special test descriptions:	None					
Configuration descriptions:	Used power se	ettings for all measurements:				
	a-mode:	Power setting 14 for all channels in the U-NII-1, U-NII-2A and U-NII-3 band. Power setting 12 for all channels in the U-NII-2C band				
	n HT20-mode:	Power setting 13 for all channels				
	n HT40-mode:	Power setting 11 for all channels				



Provided channels:

Channels with 20 MHz channel bandwidth:

	U-NII-1 & U-NII-2A (5150 MHz to 5250 MHz & 5250 MHz to 5350 MHz) channel number & center frequency									
channel	channel 36 40 44 48 52 56 60 64									
fc / MHz	f _c / MHz 5180 5200 5220 5240 5260 5280 5300 5320									

	U-NII-2C (5470 MHz to 5725 MHz) channel number & center frequency										
channel	100	104	108	112	116	120	124	128	132	136	140
fc / MHz	f _c / MHz 5500 5520 5540 5560 5580 5600 5620 5640 5660 5680 5700										

	U-NII-3 (5725 MHz to 5850 MHz) channel number & center frequency								
channel	149	153	157	161	165				
fc / MHz	fc / MHz 5745 5765 5785 5805 5825								

Channels with 40 MHz channel bandwidth:

	U-NII-1 & U-NII-2A (5150 MHz to 5250 MHz & 5250 MHz to 5350 MHz) channel number & center frequency								
channel	channel 38 46 54 62								
f _c / MHz	f _c / MHz 5190 5230 5270 5310								

U-NII-2C (5470 MHz to 5725 MHz) channel number & center frequency							
channel 102 110 118 126 134							
f _c / MHz 5510 5550 5590 5630 5670							

U-NII-3 (5725 MHz to 5850 MHz) channel number & center frequency			
channel 151 159			
f _c / MHz 5755 5795			

Note: The channels used for the tests were marked in bold in the list.

Test report	no.: 1-525	3/17-01-03 CTC I advanced
Test mode:		No test mode available. Iperf was used to ping another device with the largest support packet size
	\boxtimes	Special software is used. EUT is transmitting pseudo random data by itself
Antennas and transmit operating modes:		 Operating mode 1 (single antenna) Equipment with 1 antenna, Equipment with 2 diversity antennas operating in switched diversity mode by which at any moment in time only 1 antenna is used, Smart antenna system with 2 or more transmit/receive chains, but operating in a mode where only 1 transmit/receive chain is used)
		 Operating mode 2 (multiple antennas, no beamforming) Equipment operating in this mode contains a smart antenna system using two or more transmit/receive chains simultaneously but without beamforming.
		 Operating mode 3 (multiple antennas, with beamforming) Equipment operating in this mode contains a smart antenna system using two or more transmit/receive chains simultaneously with beamforming. In addition to the antenna assembly gain (G), the beamforming gain (Y) may have to be taken into account when performing the measurements.



11 Measurement results

11.1 Identify worst case data rate

Measurement:

All modes of the module will be measured with an average power meter to identify the maximum transmission power on mid channel. In the case that only one or two channels are available, only these will be measured.

In further tests only the identified worst case modulation scheme or bandwidth will be measured.

Measurement parameters:

Measurement parameter			
Detector:	Peak		
Sweep time:	Auto		
Resolution bandwidth:	3 MHz		
Video bandwidth:	3 MHz		
Trace mode:	Max hold		
Used test setup:	See chapter 6.5 – A		
Measurement uncertainty:	See chapter 8		

Results:

	Modulation scheme / bandwidth					
OFDM – mode	U-NII-1 & U-NII-2A		U-NII-2C		U-NII-3	
	Low channel	high channel	Low channel	high channel	Low channel	high channel
a – mode	6 Mbit/s	6 Mbit/s	6 Mbit/s	6 Mbit/s	6 Mbit/s	6 Mbit/s
n HT20 – mode	MCS0	MCS0	MCS0	MCS0	MCS0	MCS0
n HT40 – mode	MCS0	MCS0	MCS0	MCS0	MCS0	MCS0



11.2 Antenna gain

Description:

The antenna gain of the complete system is calculated by the difference of radiated power in EIRP and the conducted power of the module.

Measurement parameters:

Measurement parameter			
Detector:	Peak		
Sweep time:	Auto		
Resolution bandwidth:	3 MHz		
Video bandwidth:	3 MHz		
Trace mode:	Max. hold		
Test setup:	See chapter 6.6 – A (radiated) See chapter 6.5 – A (conducted)		
Measurement uncertainty:	See chapter 8		

Limits:

Antenna Gain
6 dBi / > 6 dBi output power and power density reduction required

Gain / dBi (calculated)



-5.8

Results:

U-NII-1	Antenna gain			
(5150 MHz to 5250 MHz)	Lowest channel	Middle channel	Highest channel	
Conducted power / dBm @ 3 MHz RBW	16.9	-/-	15.3	
Radiated power / dBm @ 3 MHz RBW	12.5	-/-	13.3	
Gain / dBi (calculated)	-4.4	-/-	-2.0	
U-NII-2A	Antenna gain			
(5250 MHz to 5350 MHz)	Lowest channel	Middle channel	Highest channel	
Conducted power / dBm @ 3 MHz RBW	12.8	-/-	15.6	
Radiated power / dBm @ 3 MHz RBW	15.0	-/-	12.1	
Gain / dBi (calculated)	-2.2	-/-	-3.5	
U-NII-2C	Antenna gain			
(5470 MHz to 5725 MHz)	Lowest channel	Middle channel	Highest channel	
Conducted power / dBm @ 3 MHz RBW	17.2	16.3	15.4	
Radiated power / dBm @ 3 MHz RBW	14.6	12.5	9.6	

U-NII-3	Antenna gain			
(5725 MHz to 5850 MHz)	Lowest channel	Middle channel	Highest channel	
Conducted power / dBm @ 3 MHz RBW	14.6	14.4	13.8	
Radiated power / dBm @ 3 MHz RBW	8.9	7.8	9.4	
Gain / dBi (calculated)	-5.7	-6.6	-4.4	

-2.6

-3.8

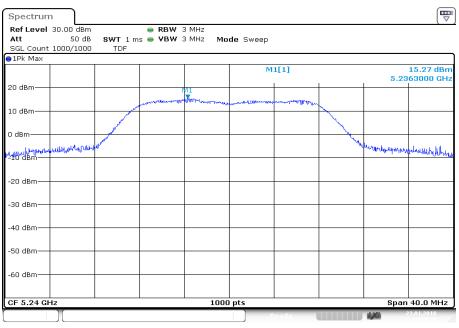


Plots (conducted):

Plot 1: U-NII-1; lowest channel

Spectrum RefLevel 30.00 dBm Att 50 dB ● RBW 3 MHz SWT 1 ms ● VBW 3 MHz Mode Sweep Count 1000/1000 SGL TDF ●1Pk Max M1[1] 16.87 dBm 5.1766600 GHz 20 dBmmun 10 dBm-0 dBm-Will White may an a water the when the work of the monthlypertyp -10 dBm--20 dBm--30 dBm--40 dBm--50 dBm--60 dBm-1000 pts CF 5.18 GHz Span 40.0 MHz

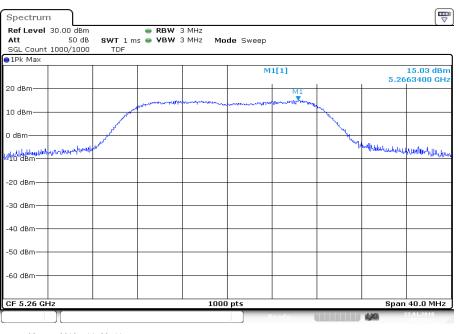
Plot 2: U-NII-1; highest channel



Date: 23.JAN.2018 14:20:29

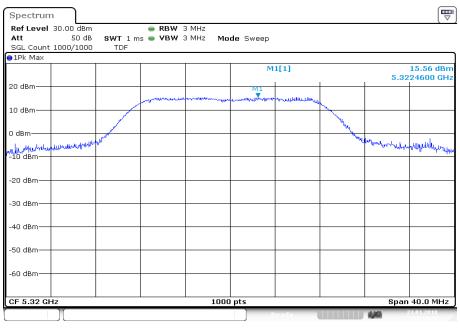
Date: 23.JAN.2018 14:10:19

Plot 3: U-NII-2A; lowest channel



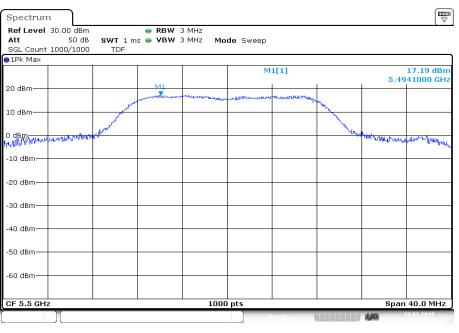
Date: 23.JAN.2018 14:22:44

Plot 4: U-NII-2A; highest channel



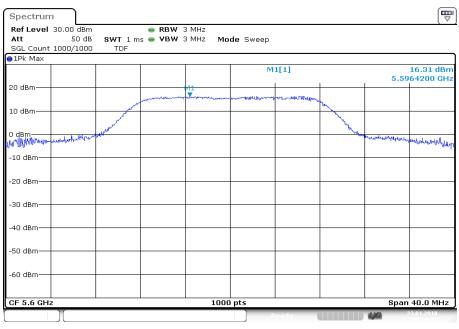
Date: 23.JAN.2018 14:31:34

Plot 5: U-NII-2C; lowest channel



Date: 23.JAN.2018 14:34:01

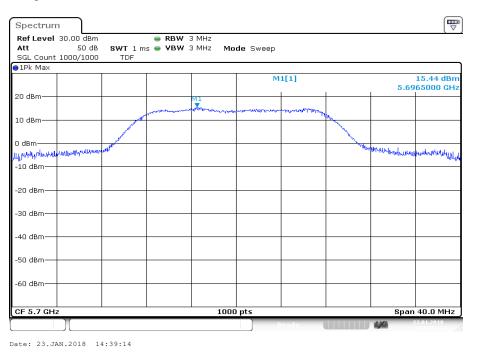
Plot 6: U-NII-2C; middle channel



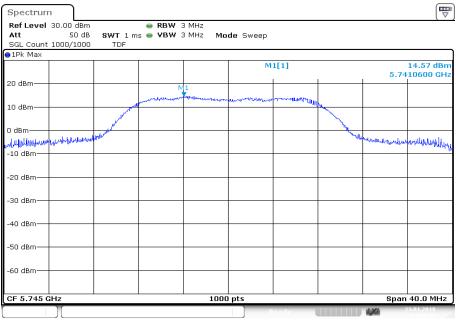
Date: 23.JAN.2018 14:36:33



Plot 7: U-NII-2C; highest channel

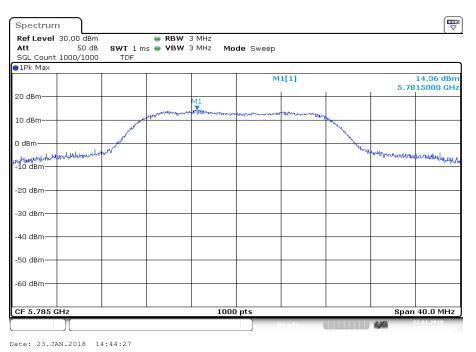


Plot 8: U-NII-3; lowest channel

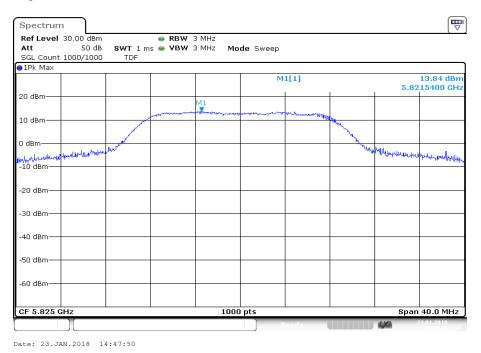


Date: 23.JAN.2018 14:41:31

Plot 9: U-NII-3; middle channel



Plot 10: U-NII-3; highest channel



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11.3 Duty cycle

Description:

The duty cycle is necessary to compute the maximum power during an actual transmission. The shown plots and values are to show an example of the measurement procedure. The real value is measured direct during the power measurement or power density measurement. The correction value is shown in each plot of these measurements.

Measurement:

Measurement parameter			
According to: KDB789033 D02, B.			
Detector:	Peak		
Sweep time:	Auto		
Resolution bandwidth:	10 MHz		
Video bandwidth:	10 MHz		
Span:	Zero		
Trace mode:	Video trigger / view / single sweep		
Used test setup:	See chapter 6.5 – A		
Measurement uncertainty:	See chapter 8		

Results:

Duty cycle and correction factor:

	Calculation method				
OFDM – mode	T _{on} (D2 _{plot}) * 100 / T _{complete} (D3 _{plot}) = duty cycle 10 * log(duty cycle) = correction factor				
	Ton (D2plot)	T _{complete} (D3 _{plot})	Duty cycle	Correction factor	
a – mode	ms	ms	100.0%	0.0 dB	
n HT20 – mode	μs	μs	100.0%	0.0 dB	
n HT40 – mode	μs	μs	100.0%	0.0 dB	



11.4 Maximum output power

11.4.1 Maximum output power according to FCC requirements

Description:

Measurement of the maximum output power conducted

Measurement:

Measurement parameter			
According to: KDB789033 D02, E.2.e.			
Detector:	RMS		
Sweep time:	≥10*(swp points)*(total on/off time)		
Resolution bandwidth:	1 MHz		
Video bandwidth:	3 MHz		
Span:	> EBW		
Trace mode:	Max hold		
Analyzer function	Band power / channel power Interval > 26 dB EBW		
Used test setup:	See chapter 6.5 – A		
Measurement uncertainty:	See chapter 8		

Limits:

Radiated output power	Conducted output power for mobile equipment
Conducted power + 6 dBi antenna gain	250mW 5.150-5.250 GHz The lesser one of 250mW or 11 dBm + 10 log Bandwidth 5.250-5.350 GHz 250mW or 11 dBm + 10 log Bandwidth 5.470-5.725 GHz (where Bandwidth is the 26dB Bandwidth [MHz]) 1W 5.725-5.85 GHz



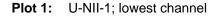
Results:

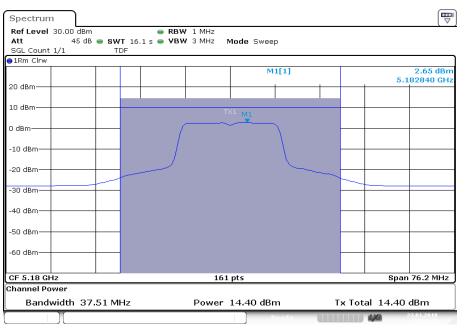
	Maximum output power conducted [dBm]				
	U-NII-1 (5150 MHz to 5250 MHz)				
	Lowest channel	Middle channel	Highest channel		
	14.4	13.9	12.8		
	U-NII-2A (5250 MHz to 5350 MHz)				
	Lowest channel	Middle channel	Highest channel		
а	13.1	13.7	13.7		
	U-NII-2C (5470 MHz to 5725 MHz)				
	Lowest channel	Middle channel	Highest channel		
	13.8	13.2	12.3		
	U-NII-3 (5725 MHz to 5850 MHz)				
	Lowest channel	Middle channel	Highest channel		
	12.5	12.0	12.0		

	Maxin	Maximum output power conducted [dBm]			
	U-NII-1 (5150 MHz to 5250 MHz)				
	Lowest channel	Middle channel	Highest channel		
	12.1	12.0	12.3		
	U-NII-2A (5250 MHz to 5350 MHz)				
	Lowest channel	Middle channel	Highest channel		
n HT20	12.2	12.9	12.9		
	U-NII-2C (5470 MHz to 5725 MHz)				
	Lowest channel	Middle channel	Highest channel		
	14.4	13.3	12.0		
	U-NII-3 (5725 MHz to 5850 MHz)				
	Lowest channel	Middle channel	Highest channel		
	11.5	11.2	11.6		

	Maximum output power conducted [dBm]				
	U-NII-1 (5150 MHz to 5250 MHz)				
	Lowest channel		Highest channel		
	8.1		8.6		
	υ	z)			
	Lowest channel 8.8		Highest channel		
n HT40			9.6		
	U-NII-2C (5470 MHz to 5725 MHz)				
	Lowest channel	Middle channel		Highest channel	
	11.5	10.5		9.3	
	U-NII-3 (5725 MHz to 5850 MHz)				
	Lowest channel	1		Highest channel	
	9.1		8.8		

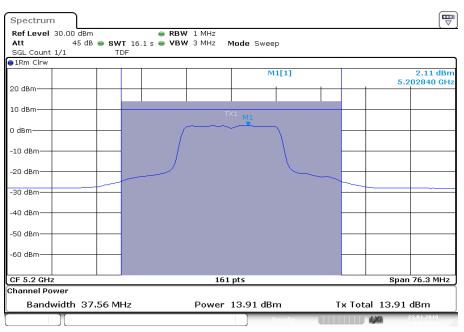
Plots: a - mode





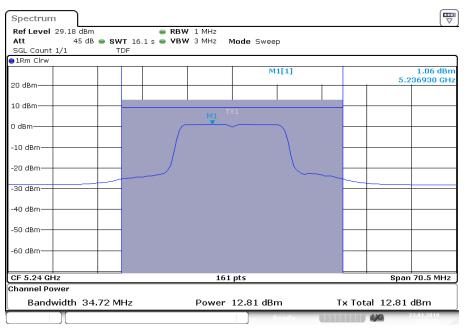
Date: 23.JAN.2018 14:10:43

Plot 2: U-NII-1; middle channel



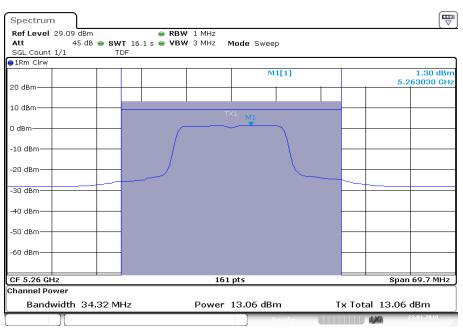
Date: 23.JAN.2018 14:15:41

Plot 3: U-NII-1; highest channel



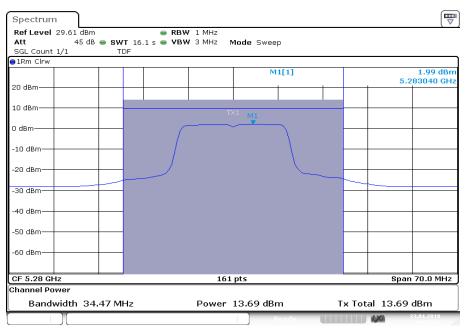
Date: 23.JAN.2018 14:20:53

Plot 4: U-NII-2A; lowest channel



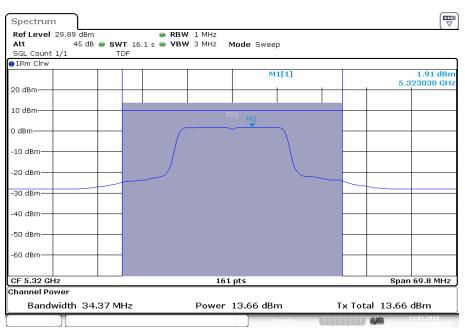
Date: 23.JAN.2018 14:23:08

Plot 5: U-NII-2A; middle channel



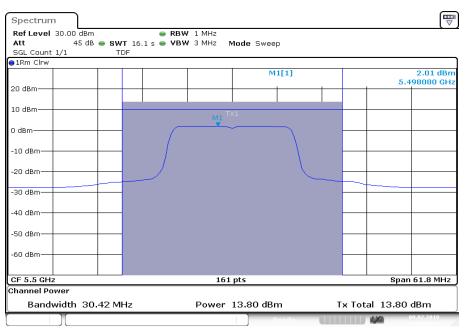
Date: 23.JAN.2018 14:25:23

Plot 6: U-NII-2A; highest channel



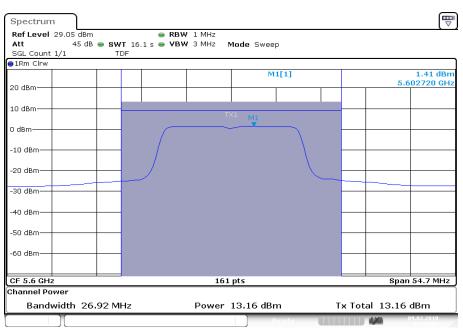
Date: 23.JAN.2018 14:31:58

Plot 7: U-NII-2C; lowest channel



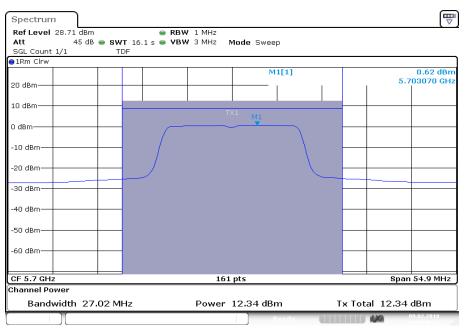
Date: 9.FEB.2018 09:33:32

Plot 8: U-NII-2C; middle channel



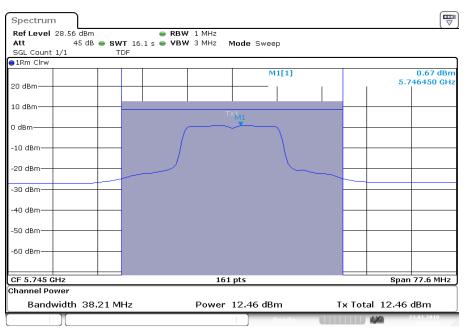
Date: 9.FEB.2018 09:40:04

Plot 9: U-NII-2C; highest channel



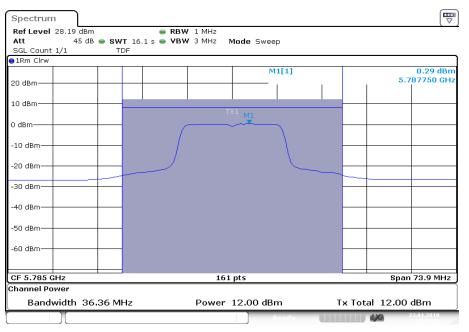
Date: 9.FEB.2018 09:46:33

Plot 10: U-NII-3; lowest channel



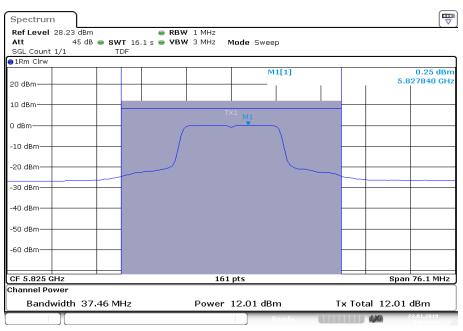
Date: 23.JAN.2018 14:41:54

Plot 11: U-NII-3; middle channel



Date: 23.JAN.2018 14:44:50

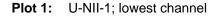
Plot 12: U-NII-3; highest channel

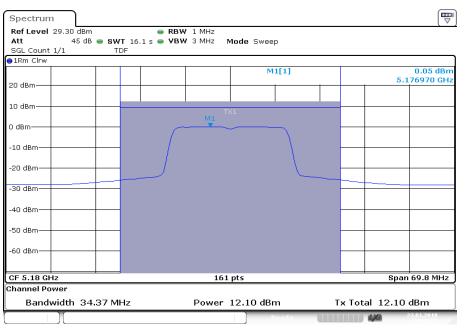


Date: 23.JAN.2018 14:48:14



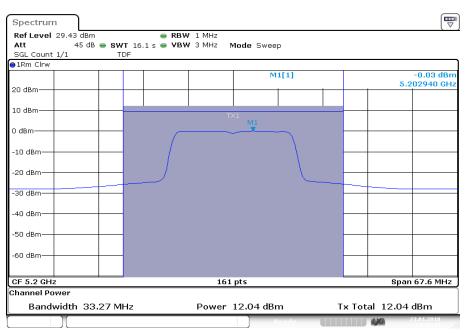
Plots: n HT20 - mode





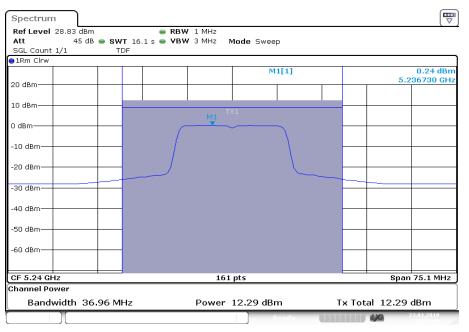
Date: 23.JAN.2018 14:52:53

Plot 2: U-NII-1; middle channel



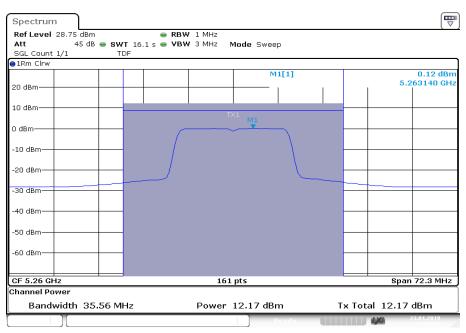
Date: 23.JAN.2018 14:55:13

Plot 3: U-NII-1; highest channel



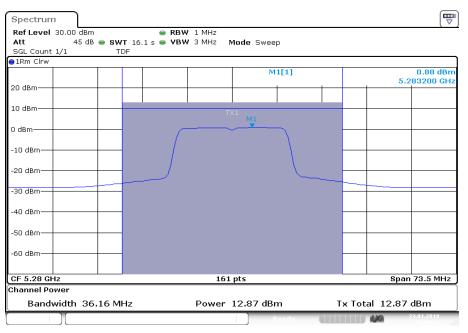
Date: 23.JAN.2018 15:00:00

Plot 4: U-NII-2A; lowest channel



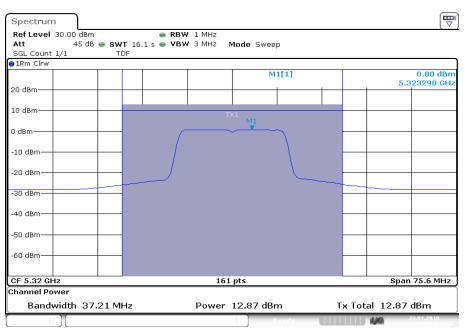
Date: 23.JAN.2018 15:02:28

Plot 5: U-NII-2A; middle channel



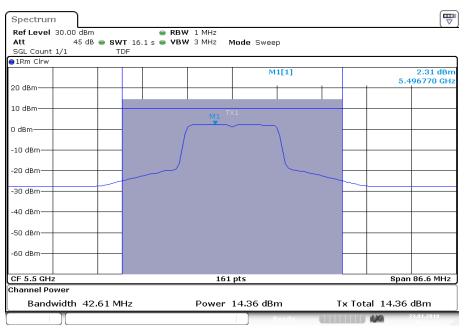
Date: 23.JAN.2018 15:04:39

Plot 6: U-NII-2A; highest channel



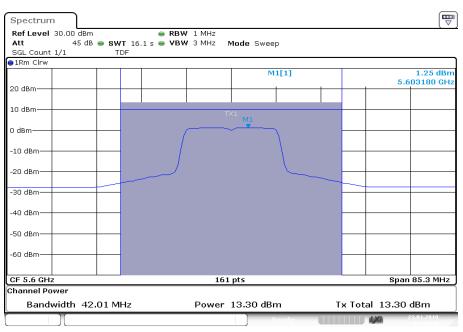
Date: 23.JAN.2018 15:09:16

Plot 7: U-NII-2C; lowest channel



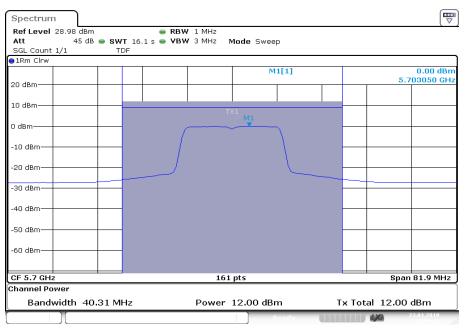
Date: 23.JAN.2018 15:11:22

Plot 8: U-NII-2C; middle channel



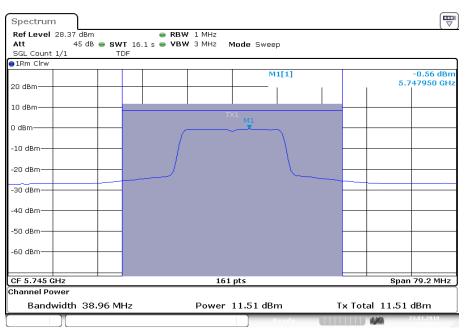
Date: 23.JAN.2018 15:48:30

Plot 9: U-NII-2C; highest channel



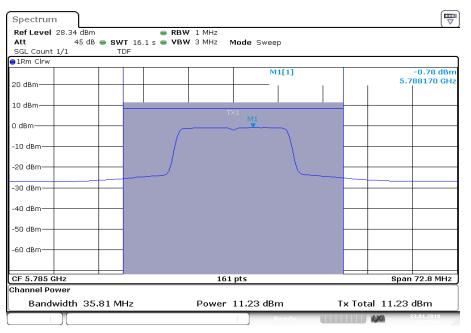
Date: 23.JAN.2018 15:50:43

Plot 10: U-NII-3; lowest channel



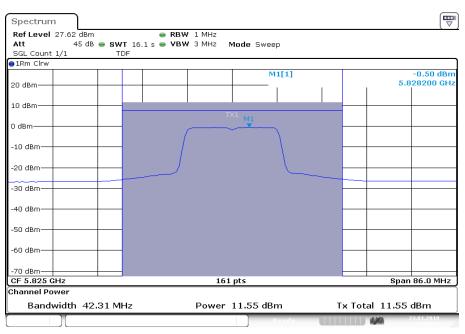
Date: 23.JAN.2018 15:52:55

Plot 11: U-NII-3; middle channel



Date: 23.JAN.2018 15:55:45

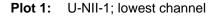
Plot 12: U-NII-3; highest channel

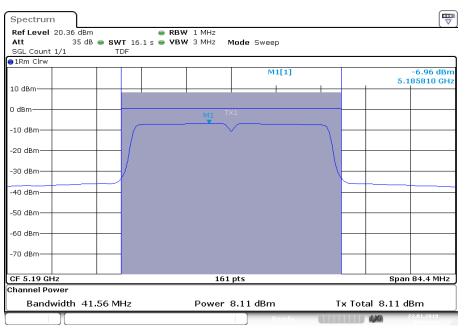


Date: 23.JAN.2018 15:58:44



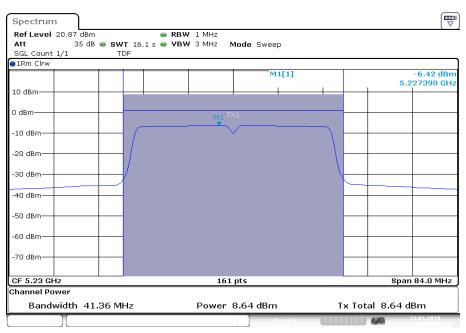
Plots: n HT40 - mode





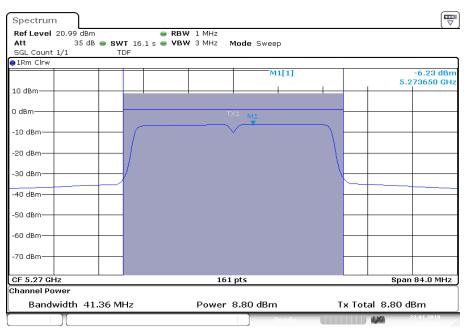
Date: 23.JAN.2018 16:03:42

Plot 2: U-NII-1; highest channel



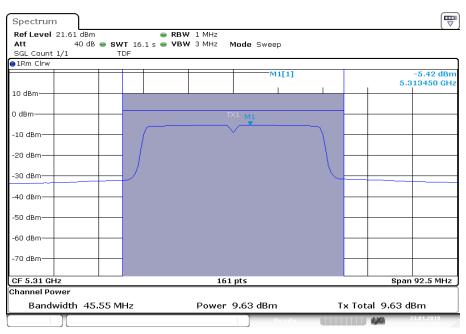
Date: 23.JAN.2018 16:06:02

Plot 3: U-NII-2A; lowest channel



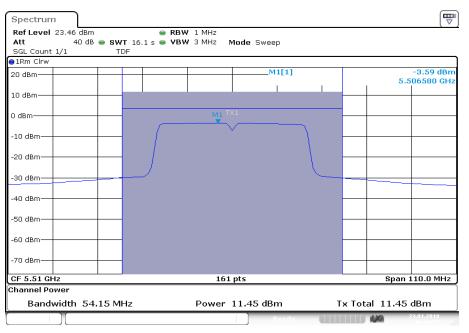
Date: 23.JAN.2018 16:08:18

Plot 4: U-NII-2A; highest channel



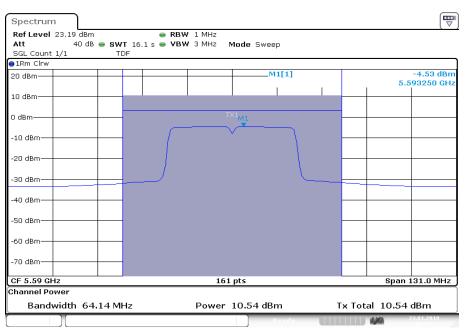
Date: 23.JAN.2018 16:17:45

Plot 5: U-NII-2C; lowest channel



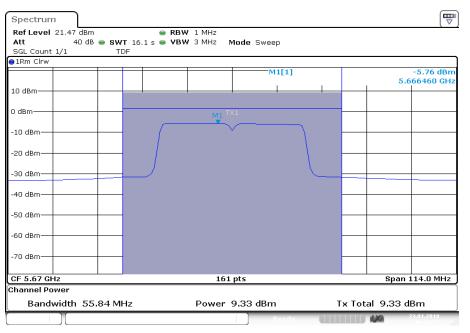
Date: 23.JAN.2018 16:19:55

Plot 6: U-NII-2C; middle channel



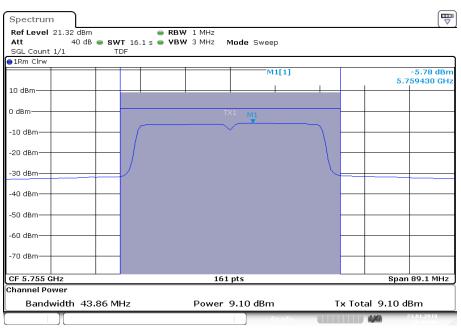
Date: 23.JAN.2018 16:22:13

Plot 7: U-NII-2C; highest channel



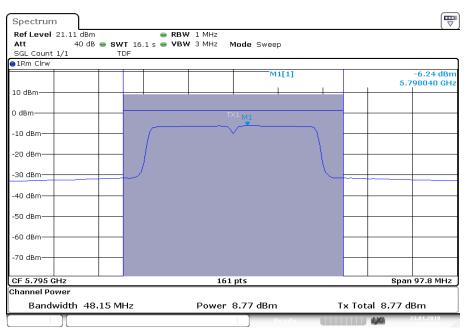
Date: 23.JAN.2018 16:26:38

Plot 8: U-NII-3; lowest channel



Date: 23.JAN.2018 10:09:30

Plot 9: U-NII-3; highest channel



Date: 23.JAN.2018 16:30:07



11.4.2 Maximum output power according to IC requirements

Description:

Measurement of the maximum output power conduced + radiated

Measurement:

Measurement parameter			
Detector:	RMS		
Sweep time:	≥10*(swp points)*(total on/off time)		
Resolution bandwidth:	1 MHz		
Video bandwidth:	≥ 3 MHz		
Span:	> EBW		
Trace mode:	Max hold		
Analyzer function	Band power / channel power Interval > 99% OBW		
Used test setup:	See chapter 6.5 – A		
Measurement uncertainty:	See chapter 8		

Limits:

Radiated output power	Conducted output power for mobile equipment
The lesser one of	The lesser one of
200 mW or 10 dBm + 10 log Bandwidth 5.150-5.250 GHz	
1 W or 17 dBm + 10 log Bandwidth 5.250-5.350 GHz	250mW or 11 dBm + 10 log Bandwidth 5.250-5.350 GHz
1 W or 17 dBm + 10 log Bandwidth 5.470-5.725 GHz	250mW or 11 dBm + 10 log Bandwidth 5.470-5.725 GHz
(where Bandwidth is the 99% Bandwidth [MHz])	(where Bandwidth is the 99% Bandwidth [MHz])
Conducted power + 6dBi antenna gain 5.725-5.825 GHz	1W 5.725-5.825 GHz

Test report no.: 1-5253/17-01-03

Results:

	Maximum output power [dBm]			
	U-NII-1 (5150 MHz to 5250 MHz)			
	Lowest channel	Middle channel	Highest channel	
	Conducted			
	14.2	13.8	12.9	
	Radiated	d (calculated – see chapter anter	ina gain)	
	9.8	11.8	10.9	
	U	-NII-2A (5250 MHz to 5350 MHz	z)	
	Lowest channel	Middle channel	Highest channel	
		Conducted		
	13.0	13.6	13.6	
	Radiated	l (calculated – see chapter anter	ina gain)	
а	10.8	11.4	10.1	
	U-NII-2C (5470 MHz to 5725 MHz)			
	Lowest channel	Middle channel	Highest channel	
		Conducted		
	13.6	13.2	12.3	
		l (calculated – see chapter anter	• /	
	11.0	9.4	6.5	
		J-NII-3 (5725 MHz to 5850 MHz		
	Lowest channel	Middle channel	Highest channel	
	Conducted			
	12.4	11.9	12.0	
	Radiated (calculated – see chapter antenna gain)			
	6.7	5.3	7.6	



	7.7	10.0	10.2	
	U-NII-2A (5250 MHz to 5350 MHz)			
	Lowest channel	Middle channel	Highest channel	
	Conducted			
	12.1	12.8	12.8	
	Radiated	d (calculated – see chapter anter	ina gain)	
n HT20	9.9	10.6	9.3	
	U-NII-2C (5470 MHz to 5725 MHz)			
	Lowest channel	Middle channel	Highest channel	
	Conducted			
	14.3	13.3	11.9	
	Radiated (calculated – see chapter antenna gain)			
	11.7	9.5	6.1	
	U-NII-3 (5725 MHz to 5850 MHz)			
	Lowest channel	Middle channel	Highest channel	
	Conducted			
	11.4	11.2	11.5	
	Radiated (calculated – see chapter antenna gain)			
	5.7	4.6	7.1	

Maximum output power [dBm] U-NII-1 (5150 MHz to 5250 MHz)

Middle channel

Conducted

12.0

Radiated (calculated - see chapter antenna gain)

Test report no.: 1-5253/17-01-03

Lowest channel

12.1

Results:



Highest channel

12.2

Test report no.: 1-5253/17-01-03

Results:

	Maximum output power [dBm]				
	U-NII-1 (5150 MHz to 5250 MHz)			:)	
	Lowest channel		Highest channel		
		Cond	ucted		
	8.1		8.6		
		l (calculated – se	ee chapter antenna gain)		
	3.7			6.6	
		-NII-2A (5250 M	Hz to 5350 MH		
	Lowest channel			Highest channel	
		Cond	ucted		
	8.8			9.6	
		l (calculated – se	ee chapter anter		
n HT40	6.6	6.1			
	U-NII-2C (5470 MHz to 5725 MHz)			, · · · · · · · · · · · · · · · · · · ·	
	Lowest channel	Middle		Highest channel	
		Conducted			
	11.4	10).5	9.3	
		d (calculated – see chapter antenna gain)		<u> </u>	
	8.8	6.		3.5	
	U-NII-3 (5725 MHz to 5850 MHz)			:)	
	Lowest channel Highest channel Conducted 9.1 8.7				
			8.7		
	Radiated (calculated – see chapter antenna gain)				
	3.4			4.3	



Test report no.: 1-5253/17-01-03



Plots: a - mode

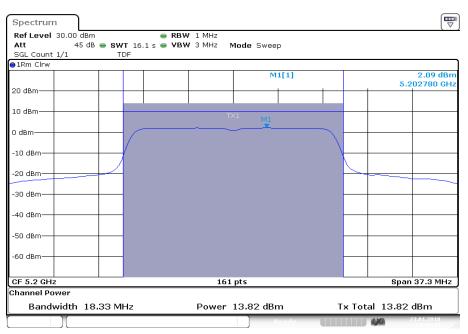
Plot 1: U-NII-1; lowest channel

Spectrum
 Ref Level
 30.00 dBm
 RBW
 1 MHz

 Att
 45 dB
 SWT
 16.1 s
 VBW
 3 MHz
 Mode Sweep SGL Count 1/1 TDF ⊖1Rm Clrw M1[1] 2.43 dBm 5.178590 GHz 20 dBm 10 dBm-0 dBm--10 dBm--20 dBm--30 dBm--40 dBm--50 dBm--60 dBm-Span 37.9 MHz CF 5.18 GHz 161 pts Channel Power Power 14.17 dBm Tx Total 14.17 dBm Bandwidth 18.63 MHz 1XI

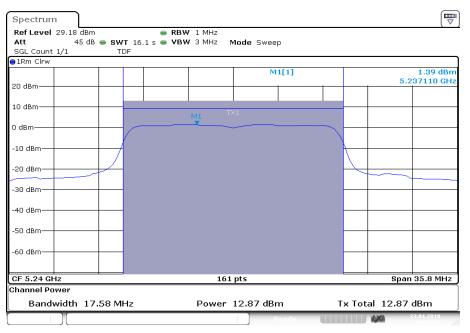
Date: 23.JAN.2018 14:11:18

Plot 2: U-NII-1; middle channel



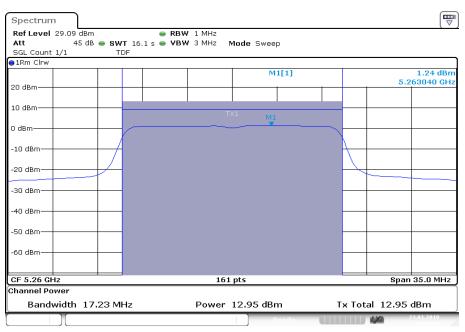
Date: 23.JAN.2018 14:16:16

Plot 3: U-NII-1; highest channel



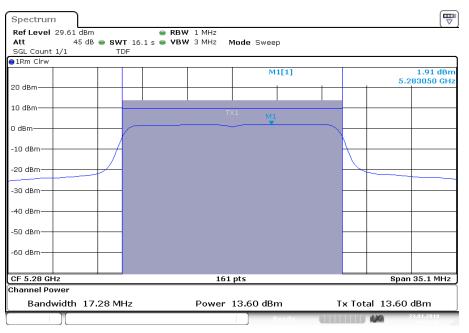
Date: 23.JAN.2018 14:21:26

Plot 4: U-NII-2A; lowest channel



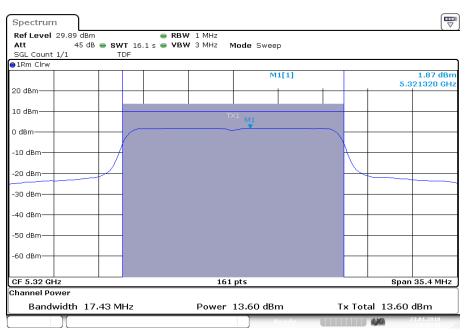
Date: 23.JAN.2018 14:23:41

Plot 5: U-NII-2A; middle channel



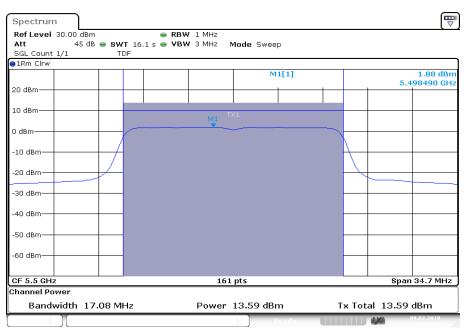
Date: 23.JAN.2018 14:25:57

Plot 6: U-NII-2A; highest channel



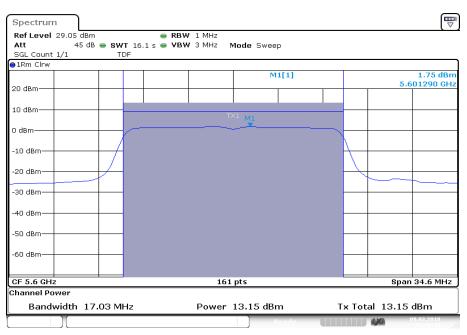
Date: 23.JAN.2018 14:32:31

Plot 7: U-NII-2C; lowest channel



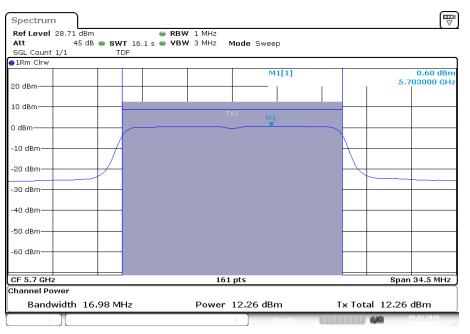
Date: 9.FEB.2018 09:34:11

Plot 8: U-NII-2C; middle channel

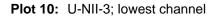


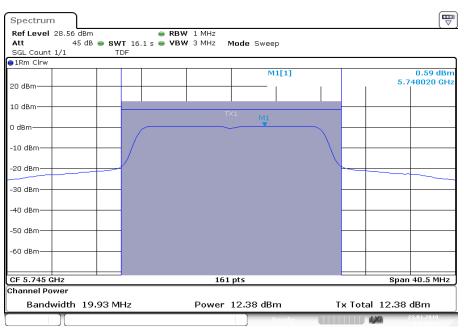
Date: 9.FEB.2018 09:40:41

Plot 9: U-NII-2C; highest channel



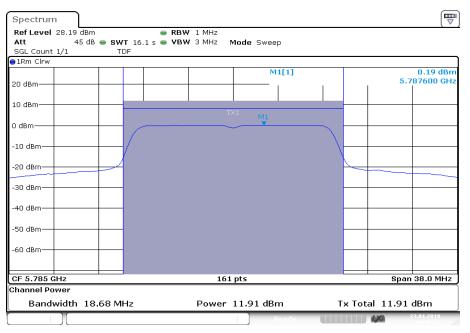
Date: 9.FEB.2018 09:47:11



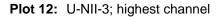


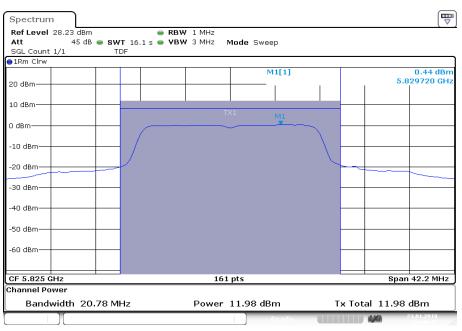
Date: 23.JAN.2018 14:42:28

Plot 11: U-NII-3; middle channel



Date: 23.JAN.2018 14:45:24

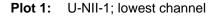


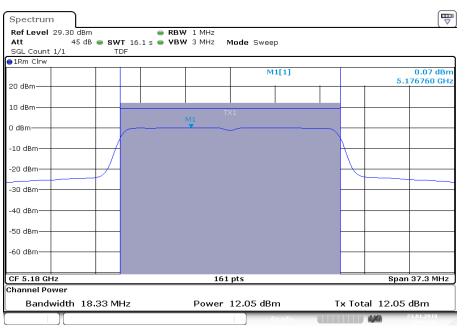


Date: 23.JAN.2018 14:48:48

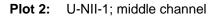


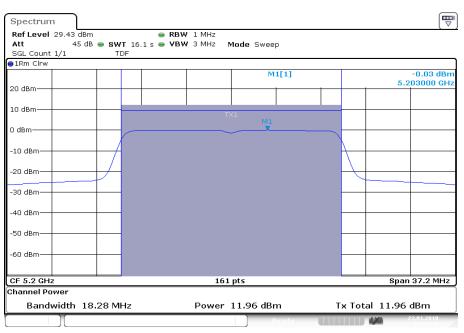
Plots: n HT20 - mode





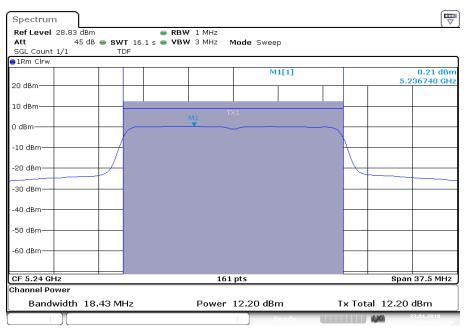
Date: 23.JAN.2018 14:53:28





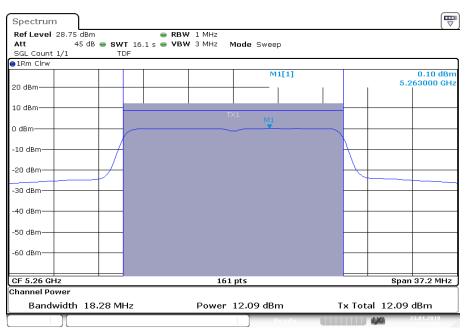
Date: 23.JAN.2018 14:55:48

Plot 3: U-NII-1; highest channel



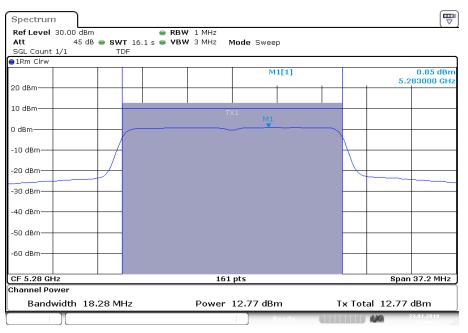
Date: 23.JAN.2018 15:00:33

Plot 4: U-NII-2A; lowest channel



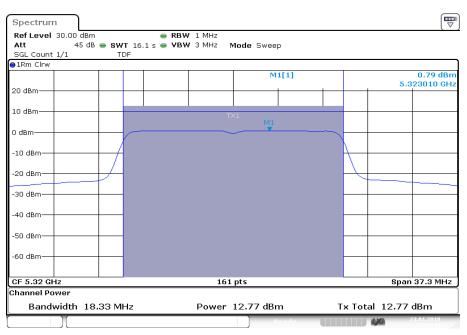
Date: 23.JAN.2018 15:03:02

Plot 5: U-NII-2A; middle channel



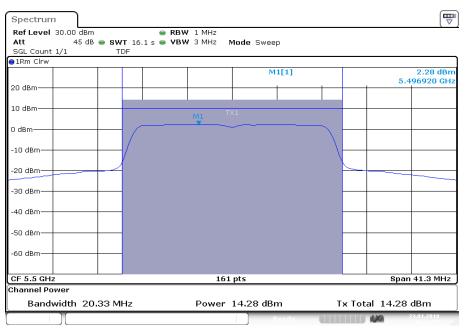
Date: 23.JAN.2018 15:05:12

Plot 6: U-NII-2A; highest channel



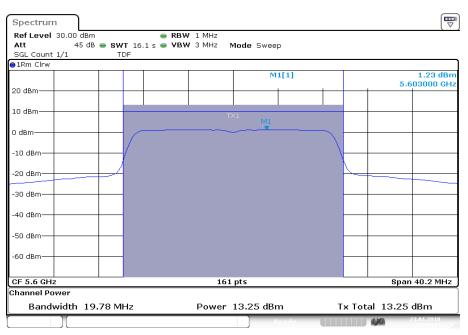
Date: 23.JAN.2018 15:09:49

Plot 7: U-NII-2C; lowest channel



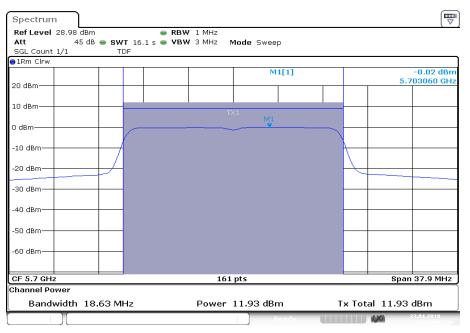
Date: 23.JAN.2018 15:11:55

Plot 8: U-NII-2C; middle channel

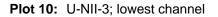


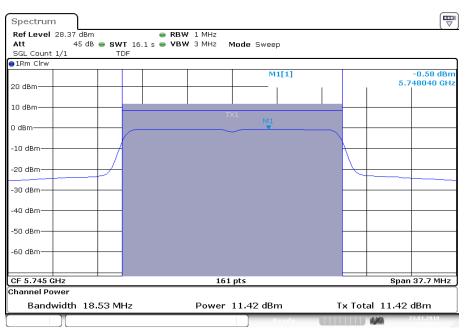
Date: 23.JAN.2018 15:49:03

Plot 9: U-NII-2C; highest channel



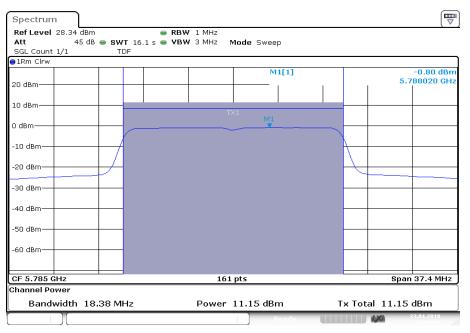
Date: 23.JAN.2018 15:51:17



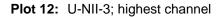


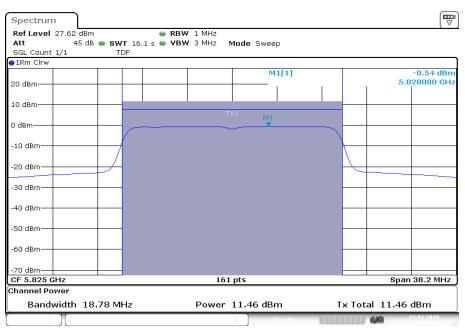
Date: 23.JAN.2018 15:53:29

Plot 11: U-NII-3; middle channel



Date: 23.JAN.2018 15:56:19



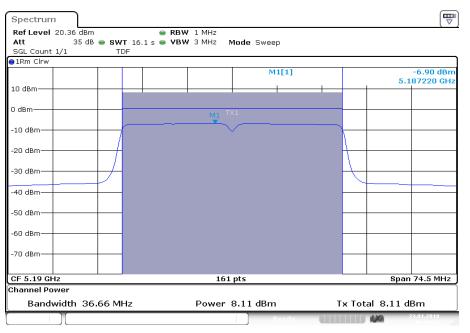


Date: 23.JAN.2018 15:59:17



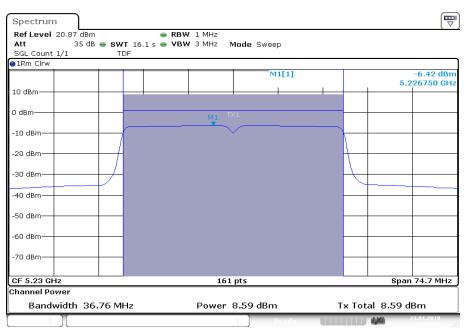
Plots: n HT40 - mode

Plot 1: U-NII-1; lowest channel



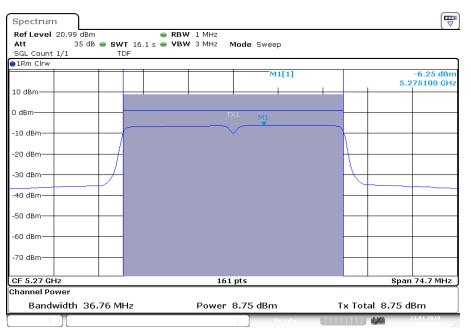
Date: 23.JAN.2018 16:04:16

Plot 2: U-NII-1; highest channel



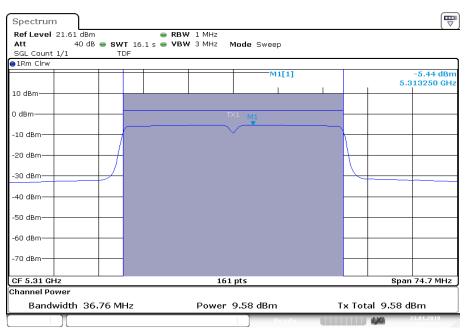
Date: 23.JAN.2018 16:06:35

Plot 3: U-NII-2A; lowest channel



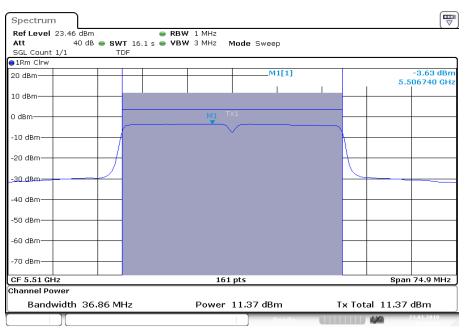
Date: 23.JAN.2018 16:08:51

Plot 4: U-NII-2A; highest channel



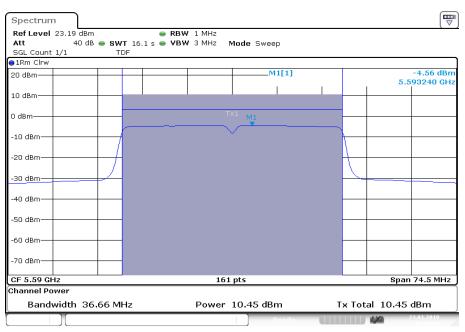
Date: 23.JAN.2018 16:18:18

Plot 5: U-NII-2C; lowest channel



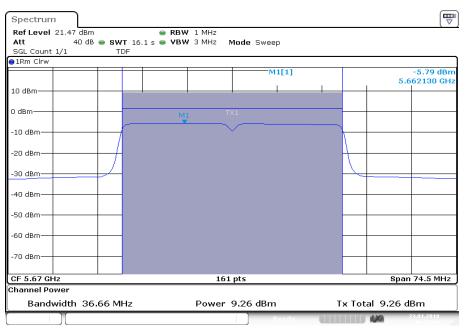
Date: 23.JAN.2018 16:20:27

Plot 6: U-NII-2C; middle channel



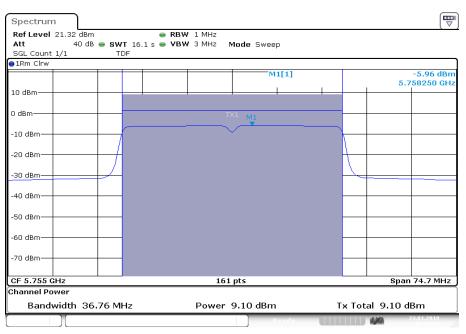
Date: 23.JAN.2018 16:22:45

Plot 7: U-NII-2C; highest channel



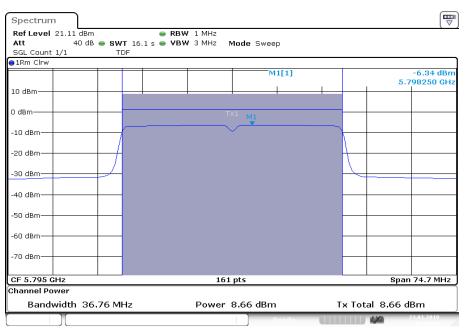
Date: 23.JAN.2018 16:27:09

Plot 8: U-NII-3; lowest channel



Date: 23.JAN.2018 10:10:02

Plot 9: U-NII-3; highest channel



Date: 23.JAN.2018 16:30:39



11.5 Power spectral density

11.5.1 Power spectral density according to FCC requirements

Description:

Measurement of the power spectral density of a digital modulated system. The measurement is repeated at the lowest, middle and highest channel.

Measurement:

Measurement parameter			
According to: KDB789033 D02, F.			
Detector:	RMS		
Sweep time:	≥10*(swp points)*(total on/off time)		
Resolution bandwidth:	1 MHz for U-NII-1/2A & 2C 500 kHz for U-NII-3		
Video bandwidth:	≥ 3xRBW		
Span:	> EBW		
Trace mode:	Max hold		
Used test setup:	See chapter 6.5 – A		
Measurement uncertainty:	See chapter 8		

Limits:

Power Spectral Density	
power spectral density conducted ≤ 11 dBm in any 1 MHz band (band 5150 – 5250 MHz)	
power spectral density conducted \leq 11 dBm in any 1 MHz band (band 5250 – 5350 MHz) power spectral density conducted \leq 11 dBm in any 1 MHz band (band 5470 – 5725 MHz)	
power spectral density conducted ≤ 30 dBm in any 500 kHz band (band 5725 – 5850 MHz)	



Results:

	Power spectral density (dBm/1MHz or dBm/500kHz)			
	U-NII-1 (5150 MHz to 5250 MHz)			
	Lowest channel	Middle channel	Highest channel	
	2.7	2.1	1.1	
	U-NII-2A (5250 MHz to 5350 MHz)			
	Lowest channel	Middle channel	Highest channel	
а	1.3	2.0	1.9	
	U-NII-2C (5470 MHz to 5725 MHz)			
	Lowest channel	Middle channel	Highest channel	
	2.0	1.4	0.6	
	U-NII-3 (5725 MHz to 5850 MHz)			
	Lowest channel	Middle channel	Highest channel	
	-2.4	-2.8	-2.5	

Plots for the U-NII-1, U-NII-2A and U-NII-2C band can be find in chapter: 11.4.1

Results:

	Power spectral density (dBm/1MHz or dBm/500kHz)			
	L L	J-NII-1 (5150 MHz to 5250 MHz		
	Lowest channel	Middle channel	Highest channel	
	0.1	0.0	0.2	
	U-NII-2A (5250 MHz to 5350 MHz)			
	Lowest channel	Middle channel	Highest channel	
n HT20	0.1	0.9	0.8	
	U-NII-2C (5470 MHz to 5725 MHz)			
	Lowest channel	Middle channel	Highest channel	
	2.3	1.3	0.0	
	U-NII-3 (5725 MHz to 5850 MHz)			
	Lowest channel	Middle channel	Highest channel	
	-3.5	-3.7	-3.5	

Plots for the U-NII-1, U-NII-2A and U-NII-2C band can be find in chapter: 11.4.1



Results:

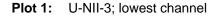
	Power spectral density (dBm/1MHz or dBm/500kHz)				
	U-NII-1 (5150 MHz to 5250 MHz)				
	Lowest channel		Highest channel		
	-7.0			-6.4	
	U	U-NII-2A (5250 MHz to 5350 MHz)			
	Lowest channel		Highest channel		
n HT40	-6.2		-5.4		
	U-NII-2C (5470 MHz to 5725 MHz)				
	Lowest channel	Middle	channel	Highest channel	
	-3.6	-4.5		-5.8	
	U-NII-3 (5725 MHz to 5850 MHz)				
	Lowest channel			Highest channel	
	-8.8		-9.5		

Plots for the U-NII-1, U-NII-2A and U-NII-2C band can be find in chapter: 11.4.1

Test report no.: 1-5253/17-01-03



Plots: a - mode



Spectrum
 Ref Level
 13.56 dBm
 RBW
 500 kHz

 Att
 30 dB
 SWT
 16.1 s
 VBW
 3 MHz
 Mode Sweep SGL Count 1/1 TDF _M1[1] -2.39 dBn 10 dBm-5.747610 GH 0 dBm--10 dBm--20 dBm--30 dBm--40 dBm--50 dBm--60 dBm--70 dBm--80 dBm-CF 5.745 GHz 161 pts Span 30.0 MHz

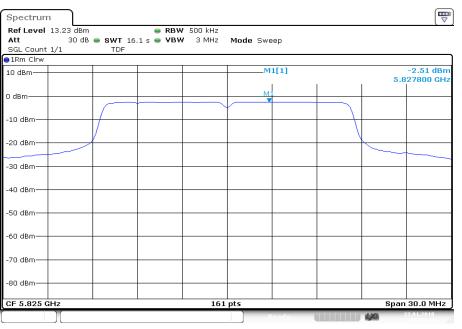
Plot 2: U-NII-3; middle channel

Spectrum Ref Level 13.19 dBm 🔵 RBW 500 kHz Att SGL Count 1/1 30 dB 🖷 SWT 16.1 s 🖷 VBW 3 MHz Mode Sweep TDF ⊖1Rm Clrw M1[1] -2.81 dBm 5.786120 GHa 10 dBm-0 dBm--10 dBm--20 dBm--30 dBm--40 dBm--50 dBm--60 dBm--70 dBm--80 dBm-CF 5.785 GHz 161 pts Span 30.0 MHz 40

Date: 23.JAN.2018 14:46:51

Date: 23.JAN.2018 14:43:55

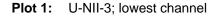
Plot 3: U-NII-3; highest channel



Date: 23.JAN.2018 14:50:15



Plots: n HT20 - mode



Spectrum
 Ref Level
 13.37 dBm
 RBW
 500 kHz

 Att
 30 dB
 SWT
 16.1 s
 VBW
 3 MHz
 Mode Sweep SGL Count 1/1 TDF _M1[1] -3.52 dBn 10 dBm-5.747980 GH 0 dBm--10 dBm--20 dBm-30 dBm -40 dBm--50 dBm--60 dBm--70 dBm--80 dBm-CF 5.745 GHz 161 pts Span 30.0 MHz

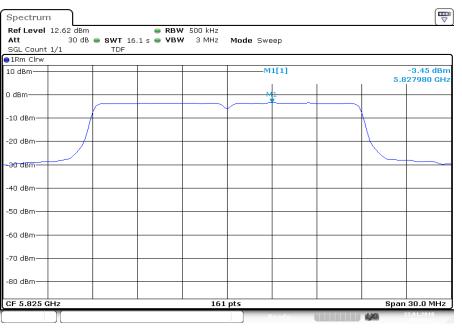
Date: 23.JAN.2018 15:54:55

Plot 2: U-NII-3; middle channel

Spectrum Ref Level 13.34 dBm 🔵 RBW 500 kHz Att SGL Count 1/1 30 dB 👄 SWT 16.1 s 👄 VBW 3 MHz Mode Sweep TDF ⊖1Rm Clrw M1[1] -3.70 dBm 5.787980 GHa 10 dBm-0 dBm· -10 dBm--20 dBm--3<u>0 d</u>Bm--40 dBm--50 dBm--60 dBm--70 dBm--80 dBm-CF 5.785 GHz 161 pts Span 30.0 MHz 12

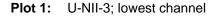
Date: 23.JAN.2018 15:57:46

Plot 3: U-NII-3; highest channel



Date: 23.JAN.2018 16:00:44

Plots: n HT40 - mode



Spectrum
 Ref Level
 6.32 dBm
 RBW
 500 kHz

 Att
 25 dB
 SWT 24 s
 VBW
 3 MHz
 Mode Sweep
 SGL Count 1/1 TDF ⊖1Rm Clrw M1[1] -8.78 dBn 0 dBm· 5.751880 GH M1 -10 dBm--20 dBm--30 dBm-49 dBm -50 dBm--60 dBm--70 dBm--80 dBm--90 dBm-240 pts Span 60.0 MHz CF 5.755 GHz

Date: 23.JAN.2018 10:11:46

Plot 2: U-NII-3; highest channel

Spectrum 11 dBm ● RBW 500 kHz 25 dB ● SWT 24 s ● VBW 3 MHz Ref Level 6.11 dBm Att SGL Count 1/1 Mode Sweep TDF ⊖1Rm Clrw -9.45 dBm 5.798130 GHa M1[1] 0 dBm M1 -10 dBm--20 dBm--30 dBm-40 dBm -50 dBm--60 dBm--70 dBm--80 dBm--90 dBm-CF 5.795 GHz 240 pts Span 60.0 MHz

Date: 23.JAN.2018 16:32:22



11.5.2 Power spectral density according to IC requirements

Description:

Measurement of the power spectral density of a digital modulated system. The measurement is repeated at the lowest, middle and highest channel.

Measurement:

Measurement parameter				
Detector:	RMS			
Sweep time: ≥10*(swp points)*(total on/off time)				
Resolution bandwidth:	1 MHz for U-NII-1/2A & 2C 500 kHz for U-NII-3			
Video bandwidth:	≥ 3xRBW			
Span:	> EBW			
Trace mode:	Max hold			
Used test setup:	See chapter 6.5 – A			
Measurement uncertainty:	See chapter 8			

Limits:

Power Spectral Density
power spectral density e.i.r.p. ≤ 10 dBm in any 1 MHz band (band 5150 – 5250 MHz)
power spectral density conducted ≤ 11 dBm in any 1 MHz band (band 5250 – 5350 MHz) power spectral density conducted ≤ 11 dBm in any 1 MHz band (band 5470 – 5725 MHz)
power spectral density conducted ≤ 30 dBm in any 500 kHz band (band 5725 – 5850 MHz)



Results:

	Power spectral density (dBm/1MHz or dBm/500kHz)					
	ļ	J-NII-1 (5150 MHz to 5250 MHz				
	Lowest channel	Middle channel	Highest channel			
		Conducted				
	2.4	2.1	1.4			
	Radiated	Radiated (calculated – see chapter antenna gain)				
	-2.0	2.0 0.1 -(
а	U-NII-2A (5250 MHz to 5350 MHz)					
a	Lowest channel	Middle channel	Highest channel			
	1.2	1.9	1.9			
	U	-NII-2C (5470 MHz to 5725 MHz	z)			
	Lowest channel	Middle channel	Highest channel			
	1.9	1.8	0.6			
	U	J-NII-3 (5725 MHz to 5850 MHz				
	Lowest channel	Middle channel	Highest channel			
	-2.4	-2.8	-2.5			

Plots for the U-NII-1, U-NII-2A and U-NII-2C band can be find in chapter: 11.4.2

Results:

	Power spe	ctral density (dBm/1MHz or dB	sm/500kHz)			
	U-NII-1 (5150 MHz to 5250 MHz)					
	Lowest channel	Lowest channel Middle channel				
	Conducted					
	0.1	0.0	0.2			
	Radiatec	d (calculated – see chapter anter	ina gain)			
	-3.7	-2.0	-1.8			
n HT20	U-NII-2A (5250 MHz to 5350 MHz)					
11 11 20	Lowest channel	Middle channel	Highest channel			
	0.1	0.9	0.8			
	U-NII-2C (5470 MHz to 5725 MHz)					
	Lowest channel	Middle channel	Highest channel			
	2.3	1.2	0.0			
	L	J-NII-3 (5725 MHz to 5850 MHz))			
	Lowest channel	Middle channel	Highest channel			
	-3.5	-3.7	-3.4			

Plots for the U-NII-1, U-NII-2A and U-NII-2C band can be find in chapter: 11.4.2

Test report no.: 1-5253/17-01-03



Results:

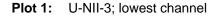
	Power spec	ctral density (d	Bm/1MHz or dE	3m/500kHz)	
	U-NII-1 (5150 MHz to 5250 MHz)				
	Lowest channel		Highest channel		
		Cond	ucted		
	-6.9			-6.4	
	Radiated	l (calculated – se	ee chapter anter	nna gain)	
	-11.3			-8.4	
n HT40	U-NII-2A (5250 MHz to 5350 MHz)				
111140	Lowest channel		Highest channel		
	-6.3		-5.4		
	U	-NII-2C (5470 M	IHz to 5725 MH	z)	
	Lowest channel	Middle	channel	Highest channel	
	-3.6	-4	.6	-5.8	
	U-NII-3 (5725 MHz to 5850 MHz)				
	Lowest channel		Highest channel		
	-9.1		-9.5		

Plots for the U-NII-1, U-NII-2A and U-NII-2C band can be find in chapter: 11.4.2

Test report no.: 1-5253/17-01-03



Plots: a - mode



Spectrum
 Ref Level
 13.56 dBm
 RBW
 500 kHz

 Att
 30 dB
 SWT
 16.1 s
 VBW
 3 MHz
 Mode Sweep SGL Count 1/1 TDF _M1[1] -2.39 dBm 10 dBm-5.747240 GH 0 dBm--10 dBm--20 dBm--30 dBm--40 dBm--50 dBm--60 dBm--70 dBm--80 dBm-CF 5.745 GHz 161 pts Span 30.0 MHz

Plot 2: U-NII-3; middle channel

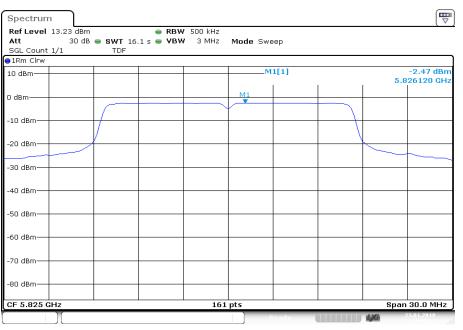
Spectrum Ref Level 13.19 dBm 🔵 RBW 500 kHz Att SGL Count 1/1 30 dB 🖷 SWT 16.1 s 🖷 VBW 3 MHz Mode Sweep TDF ⊖1Rm Clrw M1[1] -2.76 dBm 5.787800 GHa 10 dBm-0 dBm--10 dBm--20 dBm--30 dBm--40 dBm--50 dBm--60 dBm--70 dBm--80 dBm-CF 5.785 GHz 161 pts Span 30.0 MHz 100

Date: 23.JAN.2018 14:46:31

Date: 23.JAN.2018 14:43:35



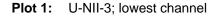
Plot 3: U-NII-3; highest channel



Date: 23.JAN.2018 14:49:55



Plots: n HT20 - mode



Spectrum
 Ref Level
 13.37 dBm
 RBW
 500 kHz

 Att
 30 dB
 SWT
 16.1 s
 VBW
 3 MHz
 Mode Sweep SGL Count 1/1 TDF _M1[1] -3.50 dBm 10 dBm-5.747980 GH 0 dBm--10 dBm--20 dBm-30 dBm -40 dBm--50 dBm--60 dBm--70 dBm--80 dBm-CF 5.745 GHz 161 pts Span 30.0 MHz

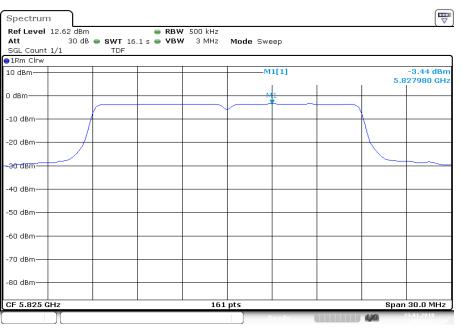
Plot 2: U-NII-3; middle channel

Spectrum Ref Level 13.34 dBm 🔵 RBW 500 kHz Att SGL Count 1/1 30 dB 👄 SWT 16.1 s 👄 VBW 3 MHz Mode Sweep TDF ⊖1Rm Clrw M1[1] -3.69 dBm 5.787980 GHa 10 dBm-0 dBm· -10 dBm--20 dBm--30 dBm--40 dBm--50 dBm--60 dBm--70 dBm--80 dBm-CF 5.785 GHz 161 pts Span 30.0 MHz 12

Date: 23.JAN.2018 15:57:26

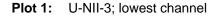
Date: 23.JAN.2018 15:54:36

Plot 3: U-NII-3; highest channel



Date: 23.JAN.2018 16:00:24

Plots: n HT40 - mode



Spectrum
 Ref Level
 6.32 dBm
 RBW
 500 kHz

 Att
 25 dB
 SWT 24 s
 VBW
 3 MHz
 Mode Sweep
 SGL Count 1/1 TDF ⊖1Rm Clrw M1[1] -9.14 dBn 5.758130 GHz 0 dBm· M1 -10 dBm--20 dBm--30 dBm-48 dBm -50 dBm--60 dBm--70 dBm--80 dBm--90 dBm-240 pts Span 60.0 MHz CF 5.755 GHz

Date: 23.JAN.2018 10:11:18

Plot 2: U-NII-3; highest channel

Spectrum 11 dBm ● RBW 500 kHz 25 dB ● SWT 24 s ● VBW 3 MHz Ref Level 6.11 dBm Att SGL Count 1/1 Mode Sweep TDF ●1Rm Clrw -9.47 dBm 5.798130 GHz M1[1] 0 dBm M1 -10 dBm--20 dBm--30 dBm-40 dBm -50 dBm--60 dBm--70 dBm--80 dBm--90 dBm-CF 5.795 GHz 240 pts Span 60.0 MHz

Date: 23.JAN.2018 16:31:54



11.6 Minimum emission bandwidth for the band 5.725-5.85 GHz

Description:

Measurement of the 6 dB bandwidth of the modulated signal.

Measurement:

Measurement parameter				
According to: KDB789033 D02, C.2.				
Detector:	Peak			
Sweep time:	Auto			
Resolution bandwidth:	100 kHz			
Video bandwidth:	300 kHz			
Span:	40 MHz			
Measurement procedure:	Using marker to find -6dBc frequencies			
Trace mode:	Max hold (allow trace to stabilize)			
Used test setup: See chapter 6.5 – A				
Measurement uncertainty:	See chapter 8			

Limits:

FCC	IC				
The minimum 6 dB bandwidth shall be at least 500 kHz.					

Test report no.: 1-5253/17-01-03



Results:

а	6	dB emission bandwidth (MHz)		
	U-NII-3 (5725 MHz to 5850 MHz)				
	Lowest channel	Middle channel	Highest channel		
	16.603	16.573	16.603		

Results:

n HT20	e	dB emission bandwidth (MHz)		
	U-NII-3 (5725 MHz to 5850 MHz)				
	Lowest channel	Middle channel	Highest channel		
	17.862	17.862	17.832		

Results:

	6 dB emission bandwidth (MHz)				
	Hz to 5850 MHz)				
	Lowest channel	Highest channel			
	36.683	36.683			

Test report no.: 1-5253/17-01-03



Plots: a - mode

Plot 1: U-NII-3; lowest channel

Spectrum									
Ref Level	18.56 d	3m	RBW	100 kHz					
Att	35		o vbw	300 kHz Mod	le Sweep				
SGL Count	200/200	TDF							
∋1Pk Max									
					M	1[1]			-8.49 dBm
10 dBm —								5.73	366984 GHz
					M	3[<u>1]</u>			-2.03 dBm
0 dBm —		Merannan	www.	Manager in	Inuman	Ladense	moundance	5.74	187462 GHz
-10 dBm		The polipie do to		۱۳۳ ۲۰۰۰ V					
-10 ubiii							t t		
-20 dBm		N.					h	n - A L	
-20 dBm	MMM	<i>p</i> ***						WWW	www.w
-30 dBm									
-40 dBm									
-50 dBm									
-60 dBm									
-00 0011									
-70 dBm									
								-	
CF 5.745 G	HZ			1001 p	ts			Spar	30.0 MHz
/larker	1 - 1								
Type Ref		X-value	011-	Y-value	Funct	ion	Func	tion Result	t
M1 D2 M:	1	5.7366984 16.6031		-8.49 dBm -1.09 dB					
M3	1	5.7487462		-2.03 dBm					
M4	1	5.7533015		-9.59 dBm					
	7				<u></u>				

Date: 23.JAN.2018 14:42:03

Plot 2: U-NII-3; middle channel

Spect	rum										
Ref Le	vel 1	8.19 d	Bm	👄 RBV	V 100 kHz						
Att				ns 👄 VBI	V 300 kHz 🛛 M	ode	Sweep				
SGL Co		00/200) TDF								
⊖1Pk M	ax			,							
							M:	1[1]			-9.01 dBm
10 dBm						M3[1]			5.7	766984 GHz	
0 dBm-					мз		IMI:	3[1]		5.70	-1.91 dBm 322428 GHz
o ubiii-			Minanduly	manya	mound	mon	man	poulprus	www.	1 3.70	
-10 dBm	η					ļ			- 7		
			No. 1						խ խ		
-20 dBm	+-י		ww						V	that was	
-20 dBn -30 dBn -30 dBn	rayw	MY M	~							- www.	monthing
-30 GBN	דרי										
-40 dBm											
10 0.011	.										
-50 dBm	η 										
-60 dBrr	+-י										
-70 dBm											
-70 UBI	-										
CF 5.7	85 G⊦	łz			1001	pts				Spar	n 30.0 MHz
Marker											
Туре	Ref		X-valu		Y-value		Funct	tion	Fund	ction Resul	t 🔤
M1		1	5.77669		-9.01 dB						
D2	M1	1		34 MHz	0.59 dB						
M3 M4		1	5.78224		-1.91 dB -8.42 dB						
1014			3.79327		0.42 UD		_	_	1		
		Л				J				1,70	2810172018

Date: 23.JAN.2018 14:44:59



Plot 3: U-NII-3; highest channel

Spectrum					
Ref Level 18.23 dB	3m 🖷 RB	W 100 kHz			
Att 35	dB SWT 1 ms 👄 VB	W 300 kHz Mod	e Sweep		
SGL Count 200/200	TDF				
1Pk Max					
			M1[1]		-9.07 dBn
10 dBm					5.8166984 GH
		мз	M3[1]		-2.29 dBn
) dBm — — — — — — — — — — — — — — — — — — —					5.8222428 GH
	Minimuman	mound	manhopena	www.www.www.	
-10 dBm				4	
00 JD	and the second sec			1 2	
20 dBm	phone -				WWWwwwwww
-30 dBm					**** NO OLOUN
-30 UBIII					
40 dBm					
50 dBm					
60 dBm					
-70 dBm					
CF 5.825 GHz		1001 pt	s	1	Span 30.0 MHz
larker					
Type Ref Trc	X-value	Y-value	Function	Fund	ction Result
M1 1	5.8166984 GHz	-9.07 dBm			
D2 M1 1	16.6031 MHz	-0.01 dB			
M3 1	5.8222428 GHz	-2.29 dBm			
M4 1	5.8333015 GHz	-9.08 dBm			
			Dondu		23.01.2018

Date: 23.JAN.2018 14:48:23



Plots: n HT20 - mode

Plot 1: U-NII-3; lowest channel

Spectrum					
Ref Level 18.37 d	3m 🖷 RB	W 100 kHz			
Att 35	dB SWT 1 ms 👄 VB	W 300 kHz Mod	e Sweep		
SGL Count 200/200	TDF				
∋1Pk Max					
			M1[1]		-10.77 dBm
10 dBm					5.7360691 GHz
	мз		M3[1]		-3.21 dBm
0 dBm	Mehronomentionethere			and the second	5.7396055 GHz
-10 dBm	Mannananan	many warden ward	- man al and a start	montered	
-10 0000		1		4	
-20 dBm	"N				<u>\</u>
-20 dBm	~~				Murrowander
-80 ABM					and a longer share
-40 dBm					
-50 dBm					
-30 0811					
-60 dBm					
-70 dBm					
CF 5.745 GHz		1001 pt	· c		Span 30.0 MHz
Aarker		1001 pt	-2		opunooio mile
Type Ref Trc	X-value	Y-value	Function	Fund	tion Result
M1 1	5.7360691 GHz	-10.77 dBm			
D2 M1 1	17.8621 MHz	0.72 dB			
M3 1	5.7396055 GHz	-3.21 dBm			
M4 1	5.7539313 GHz	-10.05 dBm			
			Ready		23.01.2018

Date: 23.JAN.2018 15:53:04

Plot 2: U-NII-3; middle channel

Spectrur	n								
Ref Level				/ 100 kHz					
Att	35 (- 0 111 ± 1113	5 👄 VBW	/ 300 kHz 🛛 M	ode Swee	р			
SGL Count	200/200	TDF							
∋1Pk Max									
									-9.04 dBm 7760691 GHz
10 dBm						3[1]		а.	-2.85 dBm
0 dBm				MB		19[1]		5	7821230 GHz
o abiii		MEnonannen	moun	manusky	MARAM	Anana	morenterman		
-10 dBm—								<u> </u>	
		1						h	
-20 dBm—		м ¹⁷						- W	
-20 dBm	haber							myn	manney
430 CBIN									
-40 dBm									
-50 dBm—									
-60 dBm—									
-70 dBm									
-70 0611									
CF 5.785 (GHz			1001	pts			Sp	an 30.0 MHz
Marker									
	fTrc	X-value		Y-value	Fund	tion	F	unction Res	ult
M1	1	5.776069		-9.04 dB					
D2 N M3	11 1	17.862		-1.05 c -2.85 dB					
M3 M4	1	5.78212		-2.85 dB -10.08 dB					
1914	1 1	5.793931		10.00 UB			1		
								4/4	23101.2018

Date: 23.JAN.2018 15:55:54

Plot 3: U-NII-3; highest channel

Spectrum									
Ref Level 1	7.62 dBm	n 👄 🖻	BW 100 kHz						
Att	35 dB	🖇 SWT 1 ms 👄 V	' BW 300 kHz	Mode	e Sweep				
SGL Count 2	00/200	TDF							
1Pk Max									
					M1[1	1			-8.76 dBm
10 dBm —				_				5.8	160988 GHz
			MB		M3[1	1			-2.65 dBm
D dBm		MI							221230 GHz
-10 dBm		Henryburnhan	mound	al na	manner	(Maridan	moundary		
TO UBIII								1	
-20 dBm		V						N.	
20 dBm 10 60 500 dBm 30 dBm	MAN							Thurs.	hunn
30 dBm	4 - DA						-	1.0	a mar with
-40 dBm —				_			-		
-50 dBm									
-60 dBm									
oo abiii									
-70 dBm									
-80 dBm 🗕							_		
CF 5.825 GH	lz		10	01 pt:	5			Spa	n 30.0 MHz
1arker									
Type Ref	Trc	X-value	Y-value		Functio	n	Fur	nction Resu	lt
M1	1	5.8160988 GH:							
D2 M1	1	17.8324 MHz							
M3	1	5.822123 GH							
M4	1	5.8339313 GH:	-9.66	dBm					

Date: 23.JAN.2018 15:58:52



Plots: n HT40 - mode

Plot 1: U-NII-3; lowest channel

Spectrum						
Ref Level 1 Att SGL Count 2	30 dB	● SWT 1.1 ms ● ' TDF	RBW 100 kHz VBW 300 kHz M	ode Sweep		, , , , , , , , , , , , , , , , , , ,
)1Pk Max		1 1				
				M1[1]		-17.26 dBn 5.7366584 GH
) dBm				M3(1)		-8.50 dBn
-10 dBm			and the second	T INIS	. Webser	5.7597353 GH
10 dbill	M	and the second for the second of			4	
-20 dBm					1	
.30 dBm					۱	ч
	1 Julian					March and a start and a start in
40 dBm	rk allerere					When the and the second second
50 dBm						
So abiii						
60 dBm						
.70 dBm						
-/ U UBIII						
-80 dBm						
CF 5.755 GI	lz		1001 p	ts		Span 60.0 MHz
larker	Trc	X-value	Y-value	Function	[on Result
Type Ref M1	1	5.7366584 GHz	-17.26 dBm	Function	Functi	un Result
D2 M1		36.6833 MHz	-0.25 dB			
MЗ	1	5.7597353 GHz	-8.50 dBm			
M4	1	5.7733417 GHz	-17.51 dBm			

Date: 23.JAN.2018 10:09:37

Plot 2: U-NII-3; highest channel

Spectrun	n					
Ref Level	11.11 dBr	n 🖷 F	RBW 100 kHz			
Att	30 di	B SWT 1.1 ms 👄 🕅	/BW 300 kHz Ma	de Sweep		
SGL Count	200/200	TDF				
∋1Pk Max						
				M1[1]		-19.44 dBı
0 dBm						5.7766584 GH
				M3[1]		-9.11 dBi
-10 dBm		ALTER AND	dan en artis i tal adao da artis	•	*1017~~~11~~11~~0001	5.7997952 GH
	1	M [†]		and the second	and allers 0 address	· • • • • • • • • • • • • • • • • • • •
-20 dBm		<u>*</u>				- 1
		الع				N
-30 dBm—	ľ					700
unto Hate Malana	Muller					muniphanopalipasto
-to asm						
-50 dBm						
-60 dBm						
-70 dBm						
-80 dBm						
-80 aBm						
CF 5.795 (21.1-		1001 pt	-		Span 60.0 MHz
Marker	אחנ		1001 pt	3		apan 00.0 MHz
Type Re	f Trc	X-value	Y-value	Function	Г. г .	nction Result
M1	1	5.7766584 GHz	-19.44 dBm	Function	Fu Fu	Inction Result
	11 1	36.6833 MHz	2.57 dB			
M3	1	5.7997952 GHz	-9.11 dBm			
M4	1	5.8133417 GHz	-16.87 dBm			
	1) Describe		23.01.2018

Date: 23.JAN.2018 16:30:14



11.7 Spectrum bandwidth / 26 dB bandwidth

Description:

Measurement of the 26 dB bandwidth of the modulated signal.

Measurement:

Measureme	nt parameter
According to: KD	B789033 D02, C.1.
Detector:	Peak
Sweep time:	Auto
Resolution bandwidth:	1% EBW
Video bandwidth:	≥ RBW
Span:	> Complete signal
Trace mode:	Max hold
Used test setup:	See chapter 6.5 – A
Measurement uncertainty:	See chapter 8

Limits:

Spectrum Bandwidth – 26 dB Bandwidth

IC: Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

FCC: Radar Detection Function of Dynamic Frequency Selection (DFS). U-NII devices operating with any part of its 26 dB emission bandwidth in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems.



Results:

		26 dB band	width (MHz)					
	l	J-NII-1 (5150 MI	Hz to 5250 MHz)				
	Lowest channel	Middle	channel	Highest channel				
	37.513	37.	562	34.715				
	Lowest frequency	y	F	lighest frequency				
	5160.769			5258.132				
	U-NII-2A (5250 MHz to 5350 MHz)							
	Lowest channel	Middle	channel	Highest channel				
а	34.315	34.4	465	34.365				
	U-NII-2C (5470 MHz to 5725 MHz)							
	Lowest channel	Middle	channel	Highest channel				
	30.420	26.	923	27.023				
	U-NII-3 (5725 MHz to 5850 MHz)							
	Lowest channel	Middle	channel	Highest channel				
	38.212	36.3	364	37.463				
	Lowest frequency	y	Highest frequency					
	5726.219			5843.881				

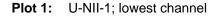
		26 dB band	width (MHz)					
	l	J-NII-1 (5150 MI	Hz to 5250 MHz					
	Lowest channel	Middle	channel	Highest channel				
	34.366	33.	267	36.963				
	Lowest frequency	ý	F	lighest frequency				
	5162.917			5258.382				
	U-NII-2A (5250 MHz to 5350 MHz)							
	Lowest channel	Middle	channel	Highest channel				
n HT20	35.565	36.	164	37.213				
	U-NII-2C (5470 MHz to 5725 MHz)							
	Lowest channel	Middle	channel	Highest channel				
	42.607	42.	800	40.310				
	L	U-NII-3 (5725 MHz to 5850 MHz)						
	Lowest channel	Middle	channel	Highest channel				
	38.961	35.	814	42.308				
	Lowest frequency	y	Highest frequency					
	5724.671			5846.229				



		26 dB band	width (MHz)				
	L	J-NII-1 (5150 MI	Hz to 5250 MHz)			
	Lowest channel			Highest channel			
	41.559		41.359				
	Lowest frequency	/	F	lighest frequency			
	5169.221		5250.679				
	U-NII-2A (5250 MHz to 5350 MHz)						
	Lowest channel		Highest channel				
n HT40	41.358			45.555			
	U-NII-2C (5470 MHz to 5725 MHz)						
	Lowest channel	Middle	channel	Highest channel			
	54.146	64.	136	55.844			
	U-NII-3 (5725 MHz to 5850 MHz)						
	Lowest channel			Highest channel			
	43.856		48.152				
	Lowest frequency	/	Highest frequency				
	5734.321			5822.273			



Plots: a - mode



Spectrum ● RBW 300 kHz SWT 1 ms ● VBW 1 MHz Ref Level 20.68 dBm Att 40 dB Mode Sweep SGL Count 200/200 TDF ●1Pk Max M1[1] 21.15 dBr 5.1607690 GHz 5.27 dBm 10 dBm-M3[1] Maly 5.1818982 GH 0 dBm -10 dBmtulingur upor Am 41 LANN MA -20 dBm month mander -30 dBm -40 dBm--50 dBm--60 dBm--70 dBm-CF 5.18 GHz 1001 pts Span 50.0 MHz Marker Y-value -21.15 dBm -1.20 dB 5.27 dBm -22.35 dBm X-value 5.160769 GHz 37.5127 MHz 5.1818982 GHz Type | Ref | Trc | Function Function Result Μ1 D2 M3 M1 M4 5.1982817 GHz LXI

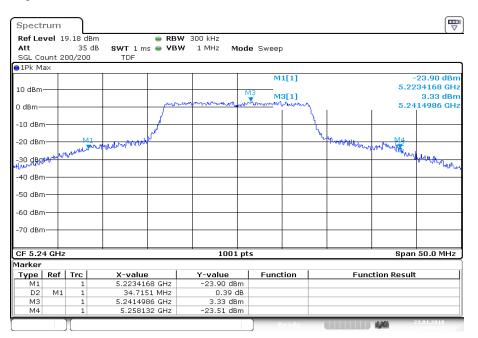
Date: 23.JAN.2018 14:10:23

Plot 2: U-NII-1; middle channel

P Spectrum Ref Level 20.16 dBm 🔵 RBW 300 kHz Att 40 dB SWT 1 ms 👄 VBW 1 MHz Mode Sweep SGL Count 200/200 TDF ●1Pk Max M1[1] -21.75 dBm 5.1818184 GHz 10 dBm-33[1] 4.50 dBr 5.2041958 GH 0 dBm -10 dBm-М1 noupon -20 dBm-WINTHAM 1 algoritor Mr. H ∿**∋ଡେମ୍ବଞ**ଳ Mr. Un -40 dBm -50 dBm--60 dBm--70 dBm-Span 50.0 MHz CF 5.2 GHz 1001 pts Marker Y-value -21.75 dBm -2.59 dB 4.50 dBm -24.34 dBm Function Function Result Type Ref Trc X-value 5.1818184 GHz 37.5624 MHz D2 M1 5.2041958 GHz 5.2193807 GHz МЗ Μ4 1.20

Date: 23.JAN.2018 14:15:21

Plot 3: U-NII-1; highest channel



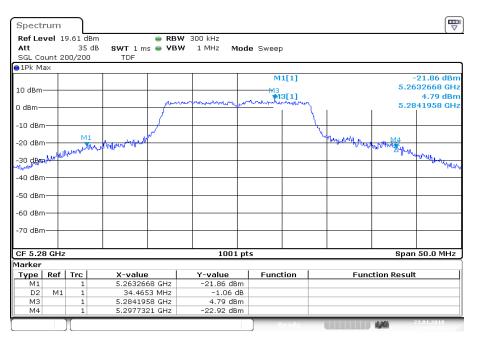
Date: 23.JAN.2018 14:20:32

Plot 4: U-NII-2A; lowest channel

Spect	rum											
Ref Le	vel 1	9.09 d	Bm	😑 RBV	/ 300 kHz							
Att		35	dB SWT 1 m	s 👄 VBV	V 1 MHz M	lode	Sweep)				
SGL Co	ount 2	00/200) TDF									
●1Pk M	ax											
							M	1[1]				-24.06 dBm
10 dBm											5.2	434668 GHz
							- Mai	3[1]				3.48 dBm
0 dBm-				Myth	mon manyan	and the second	<u>nun</u> tu	www.hollo	×		5.2	641459 GHz
				1					1 1			
-10 dBr	∩——			1					\rightarrow +		_	
				8					- X.I.			harter and the former and the second
-20 dBrr	۱ 	M	1 I Control	<u> </u>						Wheel a		
		11-MA	1 Kynwynth (mw)							- Andrew	Mary Mayler	
-30 dBr	W BAN	1 11										Marthank -
www												· · · · · · · · · · · ·
-40 dBr	-+-י								-			-
-50 dBr												
-60 dBr												
-ео авп												
-70 dBm												
-70 ubn	' T											
CF 5.2	6 GHz	2			1001	. pts					Spa	n 50.0 MHz
Marker												
Type	Ref	Trc	X-value		Y-value		Funct	tion		Fur	nction Resu	lt
M1		1	5.24346	58 GHz	-24.06 dB	m						
D2	M1	1	34.315	53 MHz	1.46 (зB						
MЗ		1	5.26414	59 GHz	3.48 dB	m						
M4		1	5.2777	32 GHz	-22.60 dB	m						
		1					D	a sed se			4.96	23.01.2018
											age of the second se	

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Plot 5: U-NII-2A; middle channel



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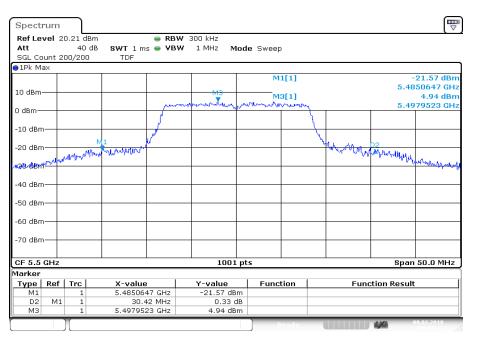
Plot 6: U-NII-2A; highest channel

Spect	rum											
Ref Le	vel 1	9.89 dE	3m	😑 RBV	V 300 kHz							
Att		35	dB SWT 1 m	s 👄 VB1	N 1 MHz N	1ode	Sweep					
SGL Co	ount 2	00/200	TDF									
🕒 1Pk M	ах											
							M	1[1]				-22.37 dBm
10 dBm											5	.3038162 GHz
10 0000							୍ "କ୍ରା	3[1]				4.54 dBm
0 dBm-				parrow	www.www.	www	Munher	and the second	١.		5	.3241457 GHz
				1					\mathbf{N}			
-10 dBn	n——								~+			
		N	11 .0	Nº C					- W	h		
-20 dBn	-+-	ي. مور ان	a plater but and a start			-				Marine Carles	MA MANAGE	
	10 March	MANDAN	~~~								X	Maron Alyens
-30 009	<u>~~</u>		11 Rayllower Wallander									the month of the many
-40 dBn												
-10 001	·											
-50 dBn	ŋ											
-60 dBn	י—⊢											
-70 dBn	-+-י					-						
CF 5.3	2 GHz	:			100	1 pts					Sp	an 50.0 MHz
Marker												
Type	Ref	Trc	X-value	.	Y-value	1	Funct	tion		Fu	nction Res	sult
M1		1	5.30381	62 GHz	-22.37 di	3m						
D2	M1	1		54 MHz	-2.33							
MЗ		1	5.32414		4.54 di							
M4		1	5.33818	16 GHz	-24.70 di	3m						
								eadv	1	111111	4.365	23.01.2018

Date: 23.JAN.2018 14:31:38

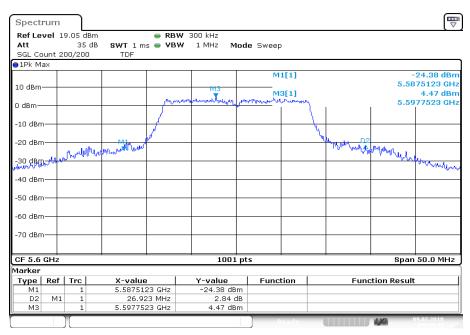


Plot 7: U-NII-2C; lowest channel



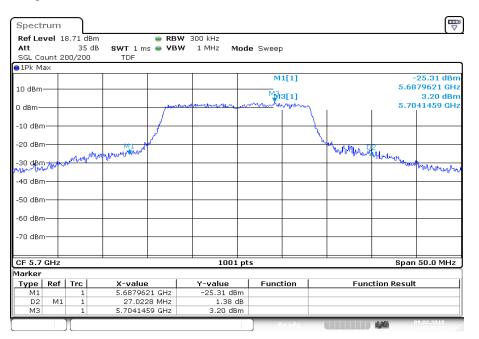
Date: 9.FEB.2018 09:33:11

Plot 8: U-NII-2C; middle channel



Date: 9.FEB.2018 09:39:43

Plot 9: U-NII-2C; highest channel



Date: 9.FEB.2018 09:46:12

Plot 10: U-NII-3; lowest channel

Spect	rum												
Ref Le	vel 1	8.56 dB	m	😑 RBV	/ 300 kHz								
Att		35 c	iB SWT 1 m	s 👄 VBV	V 1 MHz N	lode	Sweep						
SGL Co	ount 2	00/200	TDF										
😑 1Pk M	ах												
							M:	1[1]				-23.32	dBm
10 dBm											5	.726218	B GHz
								3[1]				3.12	dBm
0 dBm-	_			pm	and	Carlor and	<u>vann</u> hij	and all all all all all all all all all al	5			5.749246	D GHz
									1				
-10 dBr	+-י								-				
-20 dBn -20 dBn		м1	Month March 1	1					ⁿ w	have a	uller the work		
-20 dBm	דרי	Moundation	de ante a construction de la construcción de la construcción de la construcción de la construcción de la constru								and the second second		
20 4 4 4	NWW,											"Zahandulu	
-30 COBI													www
-40 dBm													
	'												
-50 dBrr	∩——												
-60 dBrr	∩——												
-70 dBrr	ר−י												
CF 5.7	45.04	17			1001	nte						pan 50.0	MLIZ
Marker	io di	12			1001	. pts					3	pan 30.0	
	Ref	Trc	X-value	. 1	Y-value	1	Funct	lon	1	г.,	nction Re	cult	- 1
Type M1	Rei	1	5.72621		-23.32 dB	m	Funct	.1011		Fu	neadin Re	suit	
D2	M1			.6 MHz	-1.27 (
M3		1	5.7492		3.12 dB								
M4		1	5.76443		-24.59 dB								
		1)	_			1.14	23.01.20	18
		Л									4/4		

Date: 23.JAN.2018 14:41:34

Plot 11: U-NII-3; middle channel

Spectrun	n							
Ref Level	18.19 c	Bm	RBV	V 300 kHz				
Att	35	dB SWT 1 m	is 👄 VBV	V 1 MHz Mod	le Sweep			
SGL Count	200/20) TDF						
1Pk Max								
					M1[1]			23.50 dBm
10 dBm——				МЗ			5.76	571178 GHz
			du	T	M3[1]			3.23 dBm
0 dBm			1 100	and the second	1	Ϊ.	5.78	28024 GHz
-10 dBm			1			λ		
-10 ubiii—			1			<u> </u>		
-20 dBm	M1	rappin when				Mary	ingured weeks	
	en winn	hand a con					and a contraction	
-30 dBm								Martin Martin
								- and
-40 dBm—								
-50 dBm								
-50 aBm								
-60 dBm								
-70 dBm								
CF 5.785 (-	
	iHZ			1001 p	IS		spar	50.0 MHz
1arker	<u>e </u>	×		v	[1		
Type Re M1	f Trc 1	X-value 5.76711		<u>Y-value</u> -23.50 dBm	Function	Fu	nction Result	[
	11 1		78 GHZ 38 MHZ	-23.50 UBM -1.27 dB				
M3	1	5.78280		3.23 dBm				
M4	1	5.80348		-24.77 dBm				
	20							

Date: 23.JAN.2018 14:44:30

M1[1] -23.97 dBm 10 dBm M3 M3[1] 5.8064184 GHz 0 dBm 2.38 dBm 5.805046 GHz 5.8205046 GHz -10 dBm -20 dBm -10 dBm -10 dBm -10 dBm -20 dBm -10 dBm -10 dBm -10 dBm -10 dBm -20 dBm -10 dBm -10 dBm -10 dBm -10 dBm -20 dBm -10 dBm -10 dBm -10 dBm -10 dBm -20 dBm -10 dBm -10 dBm -10 dBm -10 dBm -20 dBm -10 dBm -10 dBm -10 dBm -10 dBm -20 dBm -20 dBm -20 dBm -20 dBm -20 dBm -50 dBm <td< th=""><th>Spectru</th><th>m</th><th>)</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>	Spectru	m)												
SGL Count 200/200 TDF 1Pk Max 0 dBm 13 M1[1] 5.8064184 GHz 2.38 dBm 10 dBm 13 M3[1] 2.38 dBm 5.8205046 GHz 10 dBm 1 1 5.8064184 GHz 2.38 dBm 20 dBm 1 1 2.38 dBm 5.8205046 GHz -10 dBm - - - - -20 dBm - - - - -20 dBm - - - - -30 dBm - - - - - -20 dBm - - - - - - -30 dBm -	Ref Leve	18.23	dBm		😑 R	BW 🔅	300 kHz								
1Pk Max 10 dBm -23.97 dBm 10 dBm 5.8064184 GHz 2.38 dBm 0 dBm 0 dBm 5.8205046 GHz -10 dBm -20 dBm -10 dBm -20 dBm -11 dBm -20 dBm -20 dBm -11 dBm -20 dBm -20 dBm -10 dBm -20 dBm -20 dBm -10 dBm -20 dBm -20 dBm -20 dBm -20 dBm -50 dBm -20 dBm -20 dBm -70 dBm -20 dBm -23 97 dBm D2 M1 1 37.4625 MHz 0.05 dB M3 1 5.8205046 GHz 2.38 dBm	Att	з	35 dB	SWT 1 m:	5 😐 V	вw	1 MHz	Mode	Sweep)					
10 dBm 13 M1[1] -23.97 dBm 0 dBm 5.8064184 GHz 2.38 dBm -10 dBm -20 dBm -30.04m 5.8205046 GHz -20 dBm -40 dBm -40 dBm -40 dBm -50 dBm -50 dBm -50 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm -723.97 dBm -70 dBm -70 dBm -723.97 dBm -70 dBm -73.97 dBm -723.97 dBm -70 dBm -73.97 dBm -723.97 dBm -70 dBm -73.97 dBm -723.97 dBm M1 1 5.8004184 GHz -23.97 dBm -723.97 dBm M1 1 37.4625 MHz 0.05 dB -723.97 dBm	SGL Coun	t 200/2	00	TDF											
10 dBm 5.8064184 GHz 2.38 dBm 5.8205046 GHz 5.8064184 GHz 2.38 dBm 5.8064184 GHz 2.38 dBm 5.8064184 GHz 2.38 dBm 5.8064184 GHz 2.38 dBm 5.8064184 GHz 5.8064184 GHz 2.38 dBm 5.8064184 GHz 5.8064184 GHz	⊖1Pk Max														
0 dBm 0 dBm 0 dBm 2.38 dBm -10 dBm -10 dBm -10 dBm -10 dBm -20 dBm -11 up and reference -10 up and reference -10 up and reference -30 dBm -10 up and reference -10 up and reference -10 up and reference -30 dBm -10 up and reference -10 up and reference -10 up and reference -30 dBm -10 up and reference -10 up and reference -10 up and reference -50 dBm -10 up and reference -10 up and reference -10 up and reference -60 dBm -10 up and reference -10 up and reference -10 up and reference -70 dBm -10 up and reference -10 up and reference -10 up and reference -70 dBm -10 up and reference -10 up and reference -10 up and reference -70 dBm -10 up and reference -10 up and reference -10 up and reference -70 dBm -10 up and reference -10 up and reference -10 up and reference -70 dBm -10 up and reference -23 up and reference -10 up and reference -70 dBm -10 up and reference -23 up and reference -10 up and reference M1 1 37.4625 MHz 0.05 dB -10 up and reference M3 1 3.8205046 GHz									M	1[1]				-	23.97 dBm
0 dBm	10 dBm	-					40							5.80	64184 GHz
0 dBm							-								
-20 dBm	0 dBm					J. W. W. W. W.	Justition	m m	whyten	varma	۱.			5.82	05046 GHz
-20 dBm					1						5 1				
40 dBm	-10 dBm-				.1						X				
40 dBm	-20 dBm-	M1		he and my	124						N	marcher	<u></u>	м. <u>М4</u>	
40 dBm	-20 0011	mon	many	On Maria a									and bon or	THUNK .	
40 dBm	-30.48 m	P												- P	mound
-40 dBm -50 dBm -60 dBm -60 dBm -70	MANNY .														. way
-60 dBm -70 dBm Image: Constraint of the second se	-40 dBm—	-											_		
-60 dBm -70 dBm Image: Constraint of the second se															
Type Ref Trc X-value Y-value Function Function Result M1 1 5.8054184 GHz -23.97 dBm -23.97 dBm	-50 dBm—										_				
Type Ref Trc X-value Y-value Function Function Result M1 1 5.8054184 GHz -23.97 dBm -23.97 dBm -23.97 dBm	50 ID														
CF 5.825 GHz 1001 pts Span 50.0 MHz Marker Type Ref Trc X-value Function Function Result M1 1 5.8064184 GHz -23.97 dBm	-60 aBm—														
CF 5.825 GHz 1001 pts Span 50.0 MHz Marker Type Ref Trc X-value Function Function Result M1 1 5.8064184 GHz -23.97 dBm	-70 dBm-														
Marker Type Ref Trc X-value Y-value Function Function Result M1 1 5.8064184 GHz -23.97 dBm -	-76 abin														
Marker Type Ref Trc X-value Y-value Function Function Result M1 1 5.8064184 GHz -23.97 dBm -															
Type Ref Trc X-value Y-value Function Function Result M1 1 5.8064184 GHz -23.97 dBm - <td>CF 5.825</td> <td>GHz</td> <td></td> <td></td> <td></td> <td></td> <td>10</td> <td>)01 pts</td> <td>;</td> <td></td> <td></td> <td></td> <td></td> <td>Span</td> <td>50.0 MHz</td>	CF 5.825	GHz					10)01 pts	;					Span	50.0 MHz
M1 1 5.8064184 GHz -23.97 dBm D2 M1 1 37.4625 MHz 0.05 dB M3 1 5.8205046 GHz 2.38 dBm	Marker														
D2 M1 1 37.4625 MHz 0.05 dB M3 1 5.8205046 GHz 2.38 dBm	Type R	ef Tra	:	X-value			<u>Y-va</u> lu	•	Funct	tion		F	unctior	n Result	
M3 1 5.8205046 GHz 2.38 dBm			1												
			-												
M4 1 5.843881 GHz -23.92 dBm 23.01.2018			-												
Ready 23.01.2018	M4		1	5.84388	31 GHz	1	-23.92	dBm							
									R	eady	1		1.10	A	23.01.2018

Date: 23.JAN.2018 14:47:55



Plots: n HT20 - mode

Plot 1: U-NII-1; lowest channel

Spectrum ● RBW 300 kHz SWT 1 ms ● VBW 1 MHz Ref Level 19.30 dBm Att 35 dB Mode Sweep Count 200/200 SGL TDF ●1Pk Max M1[1] 25.44 dBr 5.1629169 GH: 2.73 dBm 10 dBm M3[1] 5.1833964 GH 0 dBm -10 dBm-03948 Km 4 m martin www.anthour million themal 40 dBm -50 dBm--60 dBm--70 dBm-CF 5.18 GHz 1001 pts Span 50.0 MHz Marker X-value 5.1629169 GHz 34.366 MHz 5.1833964 GHz Y-value -25.44 dBm 2.05 dB 2.73 dBm Type | Ref | Trc | Function Function Result Μ1 D2 M3 M1 M4 5.1972828 GHz -23.40 dBm LXI

Date: 23.JAN.2018 14:52:33

Plot 2: U-NII-1; middle channel

P Spectrum Ref Level 19.43 dBm 🔵 RBW 300 kHz Att 35 dB SWT 1 ms 👄 VBW 1 MHz Mode Sweep SGL Count 200/200 TDF ●1Pk Max M1[1] 25.86 dBn 5.1832668 GH 10 dBm M3 M3[1] 2.55 dBr 5.2033966 GH 0 dBm -10 dBmwhite water and have 220 tel the had and month and the way Ward -40 dBm -50 dBm -60 dBm--70 dBm-CF 5.2 GHz 1001 pts Span 50.0 MHz Marker Function Function Result Type Ref Trc X-value Y-value 5.1832668 GHz 33.2667 MHz -25.86 dBm 0.58 dB 2.55 dBm -25.27 dBm D2 M1 5.2033966 GHz 5.2165335 GHz МЗ Μ4 1.20

Date: 23.JAN.2018 14:54:53

Plot 3: U-NII-1; highest channel

Spectrum							
Ref Level			BW 300 kHz				
Att	35		BW 1 MHz Moo	le Sweep			
SGL Count	200/200) TDF					
∋1Pk Max							
				M1[1]			25.92 dBm
10 dBm —			M3			5.22	14185 GHz
			yman mar a	M3[1]		5.00	2.73 dBm
0 dBm					,	5.23	51048 GHz
-10 dBm		[
		1			6		
-20 dBm	1011	and the state of the			Multo ma	n. Na	
100 Aug	up poly	washer and a second			Anorth	Mr. M. Mary	Martin.
28-08h	-	wayahum water				Munutan	manner
-40 dBm							
-50 dBm							
-60 dBm							
-70 dBm							
CF 5.24 GH	lz		1001 p	ts		Spar	50.0 MHz
Marker							
Type Ref	Trc	X-value	Y-value	Function	Fur	nction Result	:
M1	1	5.2214185 GH:					
D2 M		36.9633 MH:					
M3 M4	1	5.2351048 GH: 5.2583818 GH:					
1914	1 1	J.2303010 GH.	24.04 ubili		1		
				Ready		1,20	2870172018

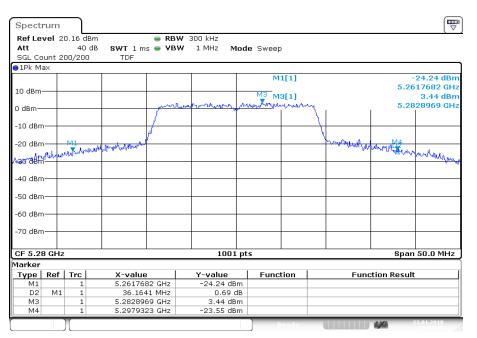
Date: 23.JAN.2018 14:59:40

Plot 4: U-NII-2A; lowest channel

Spectrum ● RBW 300 kHz SWT 1 ms ● VBW 1 MHz Ref Level 18.75 dBm 35 dB Att 35 c SGL Count 200/200 Mode Sweep TDF ●1Pk Max -25.08 dBm 5.2424673 GHz 2.87 dBm 5.2633467 GHz M1[1] 10 dBm· M3 M3[1] 0 dBm -10 dBmhave well my har the and the areas 13945 Hunghor V. Kalerman and -40 dBm -50 dBm--60 dBm--70 dBm-Span 50.0 MHz CF 5.26 GHz 1001 pts Marker Y-value -25.08 dBm 1.50 dB 2.87 dBm -23.59 dBm TypeRefTrcM11 X-value 5.2424673 GHz 35.5645 MHz 5.2633467 GHz 5.2780319 GHz Function Function Result 1 D2 M1 ΜЗ Μ4 1.20

Date: 23.JAN.2018 15:02:08

Plot 5: U-NII-2A; middle channel



Date: 23.JAN.2018 15:04:18

Plot 6: U-NII-2A; highest channel

Spectru	m													
Ref Leve	el 20	.22 dBm			RBW	300 kHz								
Att		40 dB	SWT 1 m	s 😑	VBW	1 MHz	Mod	e Sweep)					
SGL Cour	nt 20	0/200	TDF											
⊖1Pk Max														
								M	1[1]					24.55 dBm
10 dBm—													5.30	26673 GHz
10 00111						MЗ			3[1]					3.52 dBm
0 dBm	_			p	when	Mungu	were not	monther	morris	m.			5.31	51549 GHz
										- 5				
-10 dBm-	-			1		-				\rightarrow		_		
			white	ſ.						`	Mira a			all monthly and
-20 dBm—		MAL N	AN MARANTANA AN								- Martin Provide	Merry		
4 July July	where is	puse p											when	and medders
ao asm-														
-40 dBm—														
-40 0011														
-50 dBm—						_								
-60 dBm—	-					-								
-70 dBm—														
CF 5.32 (GHz					1	1001 pt	5					Span	50.0 MHz
Marker														
Type R	ef	Trc	X-value			Y-valı		Func	tion		Fu	nction R	esult	
M1		1	5.30266				5 dBm							
	M1	1	37.212				.11 dB							
M3		1	5.315154				2 dBm							
M4		1	5.339879	99 GH	1Z	-25.6	6 dBm							
								R	e ad y			1,10	2	3.01.2018

Date: 23.JAN.2018 15:08:56

Plot 7: U-NII-2C; lowest channel

Spectrum	٦						
Ref Level	21.23 dBm	n 👄 RE	W 300 kHz				
Att	40 dE		3W 1 MHz Mod	e Sweep			
SGL Count	200/200	TDF					
●1Pk Max							
				M1[1]			22.19 dBm
10 dBm						5.47	85715 GHz
10 0.0111			manun man	M3[1]			5.12 dBm
0 dBm		por mo	and the second	and the contraction	~	5.49	21078 GHz
		1 17					
-10 dBm					<u> </u>		
I-M1		Hunnaman Mark			Windhowing	hurring way when the	M4
-20 aBrowy	Anapha					an deale grand	Mar an
-30 dBm							- and Mary
-30 ubiii							
-40 dBm							
-50 dBm							
-60 dBm							
-70 dBm							
-70 ubiii							
CF 5.5 GH2	7		1001 pt	<u>د</u>		Snan	50.0 MHz
Marker	-		1001 pt			opun	
Type Re	f Trc	X-value	Y-value	Function	Eun	tion Result	1
M1	1	5.4785715 GHz	-22.19 dBm				
D2 M	11 1	42.6071 MHz	0.41 dB				
MЗ	1	5.4921078 GHz	5.12 dBm				
M4	1	5.5211786 GHz	-21.79 dBm				
				Ready		4,261	3.01.2018

Date: 23.JAN.2018 15:11:02

Plot 8: U-NII-2C; middle channel

Spect	rum													
Ref Le	vel 2	0.16 dB	m	😑 Ri	BW 🔅	300 kHz								
Att		40 d	lB SWT 1 m	s 👄 VI	BW	1 MHz	Mode	s Sweep)					
SGL Co	ount 2	00/200	TDF											
●1Pk M	ах													
								M	1[1]					.30 dBm
10 dBm														208 GHz
10 40.00								M	3[1] ^{M3}					.85 dBm
0 dBm-				m	Amore	monor	m m	wynamer w	-undu	7			5.6071	429 GHz
				1						1				
-10 dBr				1			_			\neg		-		
	6.0.1		noguandayM	r i							Whitewer	in all		4
-20 aBr	min	My Coursel	April and a second									to a property	Marchill	
1 dBr														a server Vt
00 abii	·													
-40 dBm	n——		_				_					_		
-50 dBr												_		
-60 dBrr	ר ר													
-70 dBm														
70 abri	'													
CF 5.6						10	01 pts					<u> </u>	Dana EC	.0 MHz
GF 3.0 Marker	GHZ						or pre	\$					span ac	.U MHZ
	Ref	Trc	X-value		1	Y-value		Func			E	nction Re		
Type M1	Ker	1	5.57902			-24.30		Func	uun		Fur	ICCION RE	esuit	
D2	M1	1		31 MHz	-		IO dB							
M3		1	5.60714		-		dBm							
M4		1	5.62102			-22.51								
		1]	lo adu			4.975	23,0	1.2018
		Л										100		

Date: 23.JAN.2018 15:48:10

Plot 9: U-NII-2C; highest channel

Spectrum										
Ref Level 1	18.98 dB	m 😑	RBW 30	0 kHz						
Att	35 (jB SWT 1 ms 👄	VBW 1	MHz Mi	ode Sweep					
SGL Count 2	200/200	TDF								
●1Pk Max										
					M	1[1]				-26.37 dBm
10 dBm									5.68	803195 GHz
			M3			3[1]				2.26 dBm
0 dBm —			erselation and the	according a constraint of the second s	and when the second	mont	Ψ.		5.69	52049 GHz
				l l			31			
-10 dBm										
		whywrood on the					. N			ALA MANNIN MAN
-20 asm	the second	whyperproduced					1000	mon all	Muhh	17
30 HOH	n Para								- all reality	Non
page and the										Jun M
-40 dBm										
-50 dBm										
-60 dBm										
-70 dBm										
-/0 ubiii										
CF 5.7 GHz				1001	pts				Spar	50.0 MHz
larker										
Type Ref		X-value		r-value	Func	tion		Func	tion Result	:
M1	1	5.6803195 G		-26.37 dBr						
D2 M1		40.3098 MI		2.16 d						
M3 M4	1	5.6952049 GI		2.26 dBr -24.21 dBr						
1914		5.7200292 G	14	-24.21 UBr	<u> </u>					
	1				R	eady			1,10	23.01.2018

Date: 23.JAN.2018 15:50:23

Plot 10: U-NII-3; lowest channel

Spectrum	·					
Ref Level	18.37 dB	m 🖷 RB	W 300 kHz			· · · · · ·
Att	35 d	iB SWT 1 ms 👄 VB	W 1 MHz Mod	e Sweep		
SGL Count	200/200	TDF				
1Pk Max						
				M1[1]		-24.33 dBn
10 dBm —						5.7246705 GH
			M3	M3[1]		1.76 dBn
0 dBm		- And and a start of the start	www.early.com washington of the	a and the property of the second	m .	5.7402045 GH
10.10					- N I	
-10 dBm		1			N N	
-20 dBm-44		hundlendede			human	thorow of the the second
	adulated	hope allow and a marked and a			and with	Morrish Harris
130rdBm	,					22 Yrourplushinghingh
-40 dBm						
-50 dBm						
-60 dBm						
oo abiii						
-70 dBm						
CF 5.745 G	Hz		1001 pt	s		Span 50.0 MHz
/larker			•			•
Type Ref	Trc	X-value	Y-value	Function	Fun	iction Result
M1	1	5.7246705 GHz	-24.33 dBm			
D2 M		38.9612 MHz	-1.00 dB			
M3	1	5.7402045 GHz	1.76 dBm			
M4	1	5.7636316 GHz	-25.33 dBm			
				Ready		23.01.2018

Date: 23.JAN.2018 15:52:35

Plot 11: U-NII-3; middle channel

Spectr	um										(₩
Ref Lev	el 1			RBW	' 300 kHz						
Att		35 d	- 0111 21115	e vbw	1 MHz M	ode Sv	/eep				
SGL Cou		00/200	TDF								
1Pk Ma	×										
							M1[1]				-26.75 dBn
10 dBm—							-			5.7	669678 GH
						PA IN	³ M3[1]				1.80 dBn
0 dBm—				Lower	and when the product of the second	بالمهم والمحر	der with and	m		5.7	883965 GH:
-10 dBm-				/				- \			
			1					5			
20 dBm-			J. Contraction of the second sec					<u> </u>		544	
20 0011-		M1	www.thiolist.brash						Mar How How	4 My Bar .	When here
an abhas	(White	- www									Mr. harry have
A 10											
-40 dBm-	_										
-50 dBm-											
c 0 10											
-60 dBm-											
-70 dBm-											
yo abiii											
CF 5.78	5 GH	z			1001	pts				Spa	n 50.0 MHz
1arker											
	Ref	Trc	X-value		Y-value		unction		Fun	ction Resu	lt
M1		1	5.7669678		-26.75 dB						
D2	M1	1	35.8144		2.51 c			-			
M3		1	5.7883965		1.80 dB						
M4		1	5.8027822	GHZ	-24.24 dB	m					

Date: 23.JAN.2018 15:55:25

Plot 12: U-NII-3; highest channel

Spectrum						[₩
Ref Level 17	.62 dBm	● RB₩	/ 300 kHz			
Att	35 dB	SWT 1 ms 👄 VBV	V 1 MHz Mode	e Sweep		
SGL Count 20	0/200	TDF				
●1Pk Max						
.				M1[1]		-24.57 dBn
10 dBm			МЗ			5.8039209 GH
		فليطلع	. Kunga a same and	M3[1]		2.13 dBn
U dBm					M .	5.8201549 GH
-10 dBm						
		J			N N	
-20 dBm <u>41 </u>		the Monut			- Marcarda	Augula M4
-20 dBm 41 _բֆՕ/dBm	hrannover				~~	an manager of the way have
-40 dBm						
-50 dBm						
-60 dBm						
-70 dBm						
-80 dBm						
CF 5.825 GHz	z		1001 pt:	5		Span 50.0 MHz
/larker			•			•
Type Ref	Trc	X-value	Y-value	Function	Fun	ction Result
M1	1	5.8039209 GHz	-24.57 dBm			
D2 M1	1	42.3081 MHz	-2.03 dB			
M3	1	5.8201549 GHz	2.13 dBm			
M4	1	5.846229 GHz	-26.61 dBm			
				Ready		23.01.2018

Date: 23.JAN.2018 15:58:24



Plots: n HT40 - mode

Plot 1: U-NII-1; lowest channel

Spectri	um										Ē
Ref Lev	el 1	0.36 dBi	m 😑	RBW 5	500 kHz						
Att		30 d	- 0111 21112 -	VBW	3 MHz 🛛 M	ode S	weep				
SGL Cou		00/200	TDF								
1Pk Ma	ĸ										
							M1[1]				-29.52 dBm
) dBm—					МЗ					5.16	592206 GHz
5 abiii				much	rommon	mon	mpalitin	m			-2.51 dBm
-10 dBm-	_		+			~	— .	- <u>\</u>		5.18	324077 GHz
			1 1/					L.			
-20 dBm-	+										
			M3					12			
-30 dBm-		. atta	Level Warmark					2 uhren	manhania	Maria di Sara	
while demo	wwwww	Vere Autor	Junitanan							- where we have a second	a wardowed
-+0 ubiii-											
-50 dBm-											
-60 dBm-											
-70 dBm-											
-80 dBm-											
-80 ubiii-											
										-	
CF 5.19	GHZ				1001	pts				Span	100.0 MHz
/larker		- 1				1 -					
	Ref		X-value		<u>Y-value</u> -29,52 dB		unction		Functi	on Resul	t
M1 D2	M1	1	5.1692206 G 41.5585 M		-29.52 dB 0.31 (
M3	111	1	5.1824077 G		-2.51 dB						
M4		1	5.2107791 G		-29.21 dB						
		-									

Date: 23.JAN.2018 16:03:22

Plot 2: U-NII-1; highest channel

Spectr	um										
Ref Lev Att SGL Col		30 (W 500 kHz W 3 MHz N	1ode S	Gweep				
⊖1Pk Ma	ах										
0 dBm—					M3		M1[1]				-28.47 dBm 193204 GHz -1.63 dBm
-10 dBm	+					1 million				5.22	28070 GH
-20 dBm			M					1			
-30 dBm	-		Needwarentown			-		^v	habiter total	pout a Munit	
-40 dBm	Manan	. Ann a' ann	nutwuntert							www.mlhillumyh	dward have been by
-50 dBm	+										
-60 dBm	_										
-70 dBm	+										
-80 dBm	+										
CF 5.23	GHz	:		-	100	1 pts				Span	100.0 MHz
/larker											
Туре	Ref		X-value		Y-value		Function		Fund	tion Result	:
M1		1	5.20932		-28.47 di						
D2 M3	M1	1		88 MHz 07 GHz	0.75 -1.63 di						
M3 M4		1	5.2228		-1.63 di -27.72 di						
							Ready	. (1)		4,70	23.01.2018

Date: 23.JAN.2018 16:05:41



Plot 3: U-NII-2A; lowest channel

Spectrum	ר										
Ref Level 10.9	9 dBm	-	RBW 5	00 kHz							
Att	30 dB 🛛 🛚 🛚 🖇	WT 1 ms 👄	VBW	3 MHz M	lode	Sweep					
SGL Count 200,	/200	TDF									
∋1Pk Max											
							l[1]				-29.10 dBm
0 dBm						M				5.3	2494208 GHz
o ubiii		~~ (~~	mun	mound	mon	weerlyk	St. Jonan	3			-1.33 dBm
-10 dBm		/			<i>•</i>			<u> </u>		5.:	2802898 GHz
		1						1			
-20 dBm								14			-
		M						- Ku			
-30 dBm	helpforthy more rolling	holdryt						- and	de have we	Waryhours	herrow water
-30 dBm											Mar Hay
-40 00111											
-50 dBm											_
-60 dBm											
-70 dBm											
-80 dBm											
-00 00111											
CF 5.27 GHz				1001	nts					Snar	n 100.0 MHz
Marker				1301	pes					opu	. 130.0 0012
Type Ref T	re l	X-value	1	Y-value	1	Funct	ion		Fund	tion Resu	.lt [
M1		5.2494208 G	Hz	-29.10 dB	m	Tance			- unc	AION KESI	an.
D2 M1	1	41.3583 M		1.68 0							
M3	1	5.2802898 G	Hz	-1.33 dB	m						
M4	1	5.2907791 G	Hz	-27.42 dB	m						
1							eady			4.80	23.01.2018

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Plot 4: U-NII-2A; highest channel

Ref Level Att SGL Count IPk Max 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	30	dB SWT 1 m:		500 kHz 3 MHz M	ode Swee	эр			, , , , , , , , , , , , , , , , , , ,
0 dBm -10 dBm -20 dBm -30 dBm -30 dBm -40 dBm									
-10 dBm -20 dBm -30 dBm -40 dBm									
-10 dBm -20 dBm -30 dBm -40 dBm			M	19	ſ	M1[1]			-29.49 dBn 391208 GH
-20 dBm -30 dBm յուլ տվուծա -40 dBm				havener	Not the street	Malla.		0.20	-0.73 dBn
-20 dBm -30 dBm յուլ տվուծա -40 dBm			- Common		,		~	5.29	988114 GH
-30 dBm— յուրվիսվիսուն -40 dBm—			1						1
-+0 0011			1						<u> </u>
-+0 0011		M¢					₩	an with wi	
-+0 0011	wardtund	Work of the work of the state					Marytellinger	marketter	Margaret Lat
	1								
-50 dBm									
									+
-60 dBm									
-00 ubiii-									
-70 dBm									+
-80 dBm									
CF 5.31 GH	 Hz			1001	nts			Snan	100.0 MHz
/larker					F				
Type Ref	ef Trc	X-value		Y-value	Fun	ction	Fun	ction Resul	t
M1	1	5.289120		-29.49 dB					
D2 M M3	11 1 1	45.554		2.35 c -0.73 dB					
M4	1	5.298811		-0.73 dB -27.15 dB					
		51001010		2.120 00					

Date: 23.JAN.2018 16:17:25

Plot 5: U-NII-2C; lowest channel

	rum	Ļ									
Ref Le	vel 1				W 500 kHz						
Att		30		ms 👄 VB	W 3 MHz Mi	ode Sweep	0				
SGL Co		00/200) TDF								
10 dBm					МЗ	M	1[1]				27.97 dBn 04296 GHz
0 dBm—					T T	M	2[1].			0.40	1.40 dBn
o ubiii				1 mm	a free norm mell		and the state of the	and the		5.50	25075 GH
-10 dBm	` −+−						<u> </u>	<u> </u>		-	
				1				٦.			
-20 dBr	+-י		whitemetrelie	J.					1.12	hurn with you	
20 JP-		a whead	white the start with the	<i>v</i>					handered	Myanaph R.	
Man and	ma	001 000									when the shower
-40 dBrr	η			_							
-50 dBr	+-י							-			
-60 dBr											
-ou ubii											
-70 dBm	η			_	_						
-80 dBr	<u>ו</u> רי										
CF 5.5	1.6Hz	,			1001	nts				Snan '	LOO.0 MHz
larker											
Type	Ref	Trc	X-val	ue	Y-value	Func	tion		Fund	tion Result	
M1		1		296 GHz	-27.97 dBr						
D2	M1	1		146 MHz	2.38 d						
MЗ		1		075 GHz	1.40 dBr						
M4		1	5.5345	756 GHz	-25.59 dBr	n					

Date: 23.JAN.2018 16:19:35

Plot 6: U-NII-2C; middle channel

Spect	rum											
Ref Le	vel 1	3.19 dB	m	😑 RB	W 500 kHz							
Att		30 0	dB SWT 1 m	s 👄 VB	W 3 MHz N	lode	Sweep					
		00/200	TDF									
⊖1Pk Ma	эх											
10 dBm-							M1	[1]				-28.15 dBm
								M			5.5	567334 GHz
0 dBm—				manter	internormany	me	mounter	approx 1	Ju			0.09 dBm
-10 dBm						ľ.			્ર		5.6	057841 GHz
-10 aBn				1					1			
-20 dBm				1								
		M1	la a al	ſ						Sugar 1	44	Mun worther
-30 dBm		Latroin Tr	and all remain mound							- What what	Karles-John Soft	20.1
NUMBER	NUMAN	ada .										" town when allowed
-40 dBm	<u>ا</u> _ر											
-50 dBm												
-60 dBm												
00 001	'											
-70 dBm	∩——											
-80 dBm	1											
CF 5.59					1001	nte					Pnan	100.0 MHz
Marker	9 GHZ	-			1001	prs					əhan	100.0 MHZ
	Ref	Trc	X-value		Y-value	-	Funct	ion I		Fund	tion Resu	l+
Type M1	Rei	1	5.55673		-28.15 dB	m	Funct			Func	LION RESU	n.
D2	M1	1		57 MHz	-1.22 (
M3	1	1	5.60578		0.09 dB							
M4		1	5.62086		-29.38 dB							
		1						a sedar	1		4.365	23.01.2018
		Л									1.00	

Date: 23.JAN.2018 16:21:53



Plot 7: U-NII-2C; highest channel

Spectrum						
Ref Level 1	1.47 dBm	n 🖷 R	BW 500 kHz			
Att	30 dB	SWT 1 ms 👄 V	BW 3 MHz Mod	le Sweep		
SGL Count 2	200/200	TDF				
∋1Pk Max						
				M1[1]		-31.14 dBm
0 dBm			M3			5.6412288 GHz
U UBIII		junur	wart marker on	mound & Aller	m	-1.00 dBm
-10 dBm		/	¥			5.6628070 GHz
-20 dBm					<u> </u>	
		Ma			L M4	
-30 dBm	Munder Aphance	werter towned it			- Walk the to get have	menergenergen after a fallen ander
whitehall						a annal allanday
-40 dBm						
-50 dBm						
oo abiii						
-60 dBm						
-70 dBm						
-80 dBm						
CF 5.67 GHz			1001 pt			Span 100.0 MHz
	2		1001 p	15		span 100.0 MHz
Marker	1		1	F	I =	*! DI*
Type Ref M1	1 Trc	X-value 5.6412288 GHz	-31.14 dBm	Function	Func	tion Result
D2 M1		55.8444 MHz				
M3	1	5.662807 GHz				
M4	1	5.6970732 GHz				
	70					

Date: 23.JAN.2018 16:26:18

Plot 8: U-NII-3; lowest channel

Spectr	um											
Ref Lev Att SGL Col		30	dB SWT 1 m		500 kHz I 3 MHz M	lode	Sweep	I				X
🔵 1Pk Ma	ах											
0 dBm—				narrow	nautoman	مواحديه	MЗ	1[1] B[1]	644			-27.94 dBm 343206 GHz -1.27 dBm
-10 dBm	_					~			\rightarrow	1	5.7	617930 GHz
-20 dBm	_		Mi	/					_\	M4		
-30 dBm	hime	Her have	www.tradgelater							h Mf webhpurkuu	woo wandan landa	Monaument
-40 dBm												
-50 dBm	+											
-60 dBm	_				_							
-70 dBm	_											
-80 dBm	+											
CF 5.75	i5 G⊦	lz			1001	pts					Span	100.0 MHz
Marker												
Туре	Ref		X-value		Y-value		Funct	tion		Fund	tion Resul	t
M1		1	5.73432		-27.94 dB							
D2 M3	M1	1	43.856	64 MHz	0.01 (-1.27 dB							
M3 M4		1	5.7617		-1.27 dB -27.94 dB							
][R	eady	1		4,70	23.01.2018

Date: 23.JAN.2018 10:09:10

Plot 9: U-NII-3; highest channel

Spect												
	vel 1	l1.11 dBr		RBW								
Att		30 d		e vbw	3 MHz M	ode	Sweep					
		200/200	TDF									
1Pk M	ах											
							M1	[1]				-28.02 dBn
) dBm—				Ma							5.7	741210 GH
				minut	manning	man	nauro DANA	Balmun	۹			-1.55 dBm
-10 dBm	n——		-	(r			\rightarrow	-	5.7	B39109 GH
			1 1/						AL .			
-20 dBm	<u>ו</u> רי		MI						<u> </u>			
									Way	₩4		
зо авп	ALL	www.	hy and wall her -							-danifi	well of Win	May Marchard
40 dBm												a manufact
-+0 abn	'											
-50 dBm	n											
-60 dBrr	∩— -								-			
-70 dBrr												
-80 dBrr												
-ou ubii	'											
CF 5.7		1-1			1001	nte					Pnan	100.0 MHz
larker	90 GI	12			1001	prs					opun	100.0 0012
Type	Ref	Trc	X-value	1	Y-value	-	Funct	ion I		Eune	tion Resul	+
M1	Kei	1	5.774121	GH7	-28.02 dB		runce			unc	cion kesui	ι
D2	M1		48.1516		-1.43 0							
MЗ		1	5.7839109		-1.55 dB							
M4		1	5.8222725	GHz	-29.45 dB	m						

Date: 23.JAN.2018 16:29:47