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TEST REPORT

EVALUATION Test for ADC10DWAU&ATC41DWKN

APPLICANT
HYUNDAI MOBIS CO., LTD.

DATE OF ISSUE
July 24, 2019

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FCC ID/IC
TQ8-ADC10DWAU / 5074A-ATC41DWKN

Applicant	**HYUNDAI MOBIS CO., LTD.** 203, Teheran-ro, Gangnam-gu, Seoul, 135-977, South Korea
Equipment Class(es) **Rule Part(s)**	DSS, DTS, UNII 15
Application's Statement	The applicant takes full responsibility that the test data referenced below represents compliance for this FCC ID.
Differences Brief Description	Bluetooth & WLAN hardware and software of this device are identical to the implementation in TQ8-ADB10DWAN. The operational description includes detailed information about the changes between the devices. The data from that application has been verified through appropriate spot checks to demonstrate compliance for this device as shown in the summary table below.
Test Reference	KDB 484596 D01 Reference Test Data v01

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test results were applied only to the test methods required by the standard.

Tested by
Se Wook Park (signature)

Technical Manager
Kwon Jeong (signature)

HCT CO., LTD.
Soo Chan Lee
SooChan Lee / CEO

The detail test data can be found in this documents, Appendix A.

Category	Spot Check	Verdict
Unlicensed EMC	Band Edge	Share
	Spurious Emissions	Share

Reference Detail Section

Reference ID	Equipment Class	Report Title	Section
FCC ID: TQ8-ADB10DWAN IC: 5074A-ATC41DWKN	DSS	Bluetooth Report	All sections
	DTS	WLAN DTS Report	All sections
	UNII	UNII Test Report	All sections

Appendix A. The Spot check test data

1. Summary of the spot check for Unlicensed EMC

	Test Item	Channel	Measured Frequency	Reference Result [dBuV/m]		Reuse Result [dBuV/m]		Deviation (dB)	
				Peak	Average	Peak	Average	Peak	Average
BT	Band Edge	78	2483.5 MHz~2500 MHz	65.87	44.49	51.44	41.81	-14.43	-2.68
	RSE	78	7440 MHz	51.13	37.20	50.56	36.59	-0.57	-0.61
DTS	Band Edge	1	2310 MHz~2390 MHz	59.32	45.23	57.19	44.67	-2.13	-0.56
	RSE	1	7236 MHz	58.75	51.20	57.52	50.66	-1.23	-0.54
UNII	Band Edge	58	5350 MHz~5460 MHz	55.67	44.00	55.48	43.59	-0.19	-0.41
	RSE	149	17235 MHz	62.83	-	61.29	-	-1.54	-

2. List of test equipment for EMC

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Innco system	CO3000 / Controller(Antenna mast)	N/A	N/A	CO3000-4p
Innco system	MA4640/800-XP-EP / Antenna Position Tower	N/A	N/A	N/A
Emco	2090 / Controller	N/A	N/A	060520
Ets	Turn Table	N/A	N/A	N/A
Rohde & Schwarz	Loop Antenna	08/23/2018	Biennial	1513-175
Schwarzbeck	VULB 9160 / Hybrid Antenna	08/09/2018	Biennial	3368
Schwarzbeck	BBHA 9120D / Horn Antenna	11/21/2017	Biennial	9120D-1191
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	12/04/2017	Biennial	BBHA9170541
Rohde & Schwarz	FSP(9 kHz ~ 30 GHz) / Spectrum Analyzer	09/19/2018	Annual	836650/016
Rohde & Schwarz	FSV40-N / Spectrum Analyzer	09/19/2018	Annual	101068-SZ
Wainwright Instruments	WHKX10-2700-3000-18000-40SS / High Pass Filter	01/03/2019	Annual	4
Wainwright Instruments	WHKX8-6090-7000-18000-40SS / High Pass Filter	01/03/2019	Annual	5
Wainwright Instruments	WRCJV2400/2483.5-2370/2520-60/12SS / Band Reject Filter	06/19/2019	Annual	2
Wainwright Instruments	WRCJV5100/5850-40/50-8EEK / Band Reject Filter	01/03/2019	Annual	2
Api tech.	18B-03 / Attenuator (3 dB)	06/04/2019	Annual	2
WEINSCHEL	56-10 / Attenuator(10 dB)	10/10/2018	Annual	72316
CERNEX	CBLU1183540B-01/Broadband Bench Top LNA	01/03/2019	Annual	28549
CERNEX	CBL06185030 / Broadband Low Noise Amplifier	01/03/2019	Annual	24615
CERNEX	CBL18265035 / Power Amplifier	01/03/2019	Annual	22966
CERNEX	CBL26405040 / Power Amplifier	06/18/2019	Annual	25956
TESCOM	TC-3000C / Bluetooth Tester	03/26/2019	Annual	3000C000276

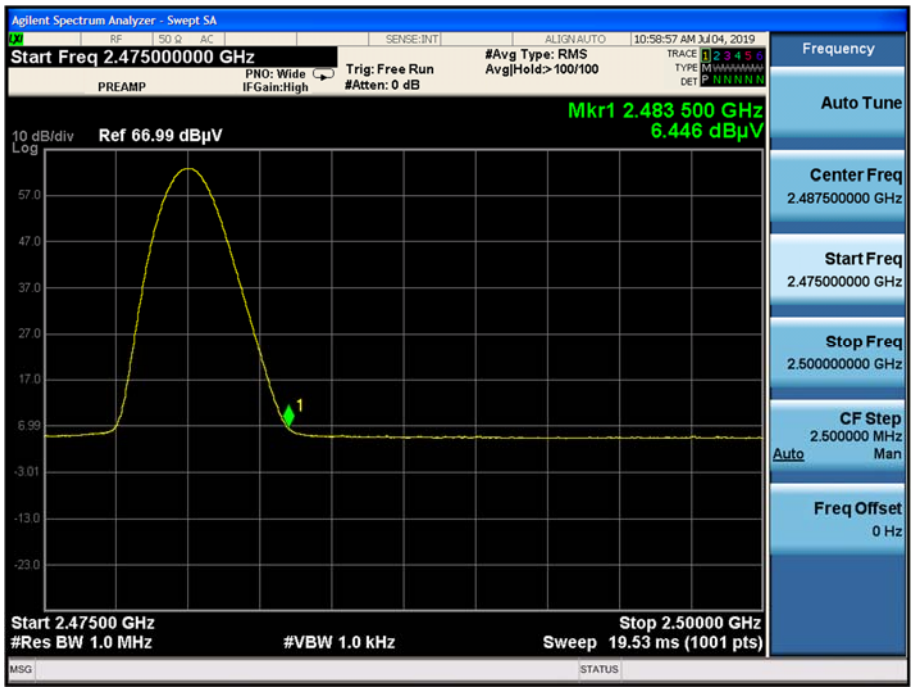
3. Test Plot

BT Band Edge (DH5/ch.78)

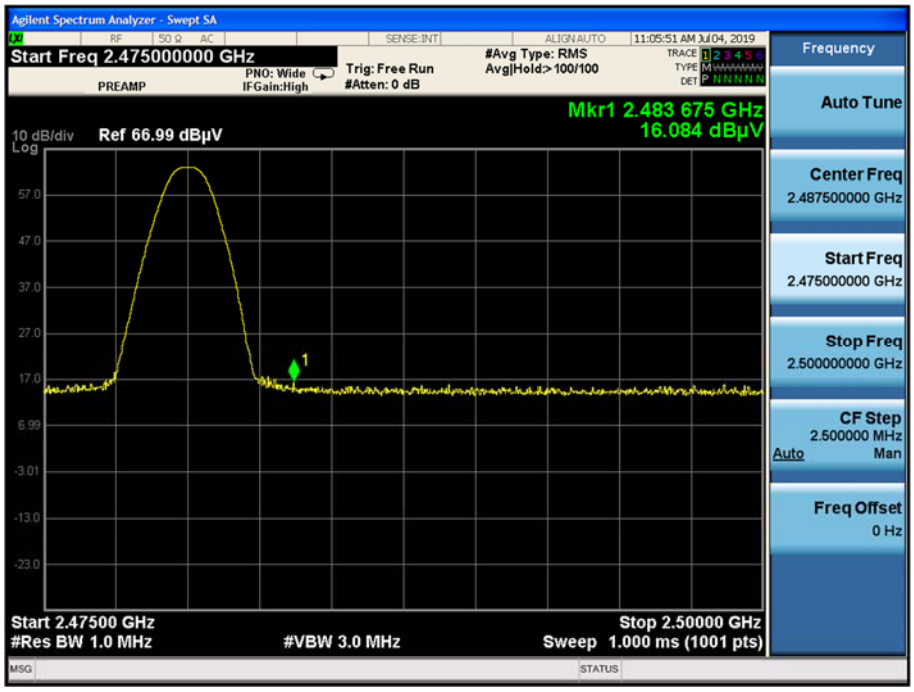
Bandedge

Frequency [MHz]	Reading dBuV	※ A.F.+CL [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2483.5	16.08	35.36	V	51.44	73.98	22.54	PK
2483.5	6.45	35.36	V	41.81	53.98	12.17	AV

Radiated Restricted Band Edges plot – Average Reading



Radiated Restricted Band Edges plot – Peak Reading

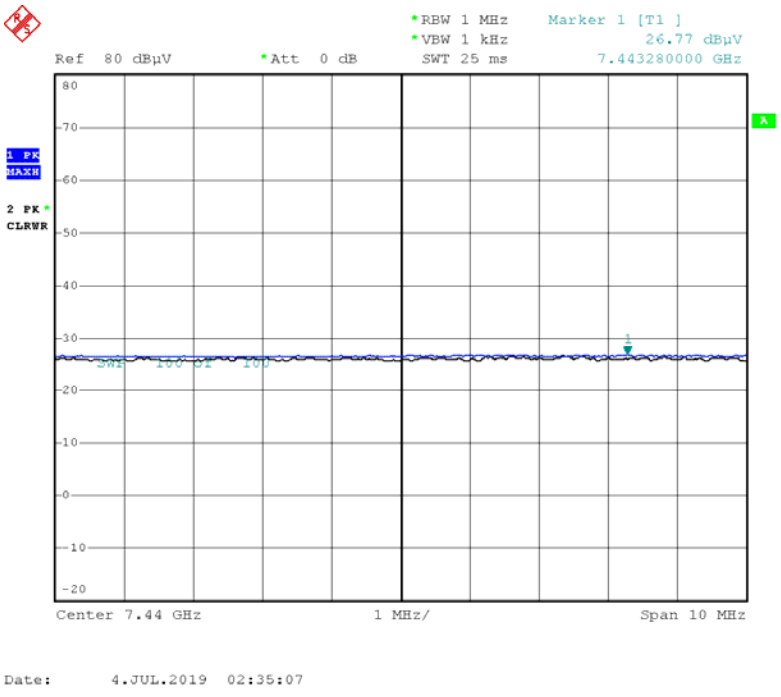


BT R.S.E 3rd Harmonic(2-DH5/ch.78)

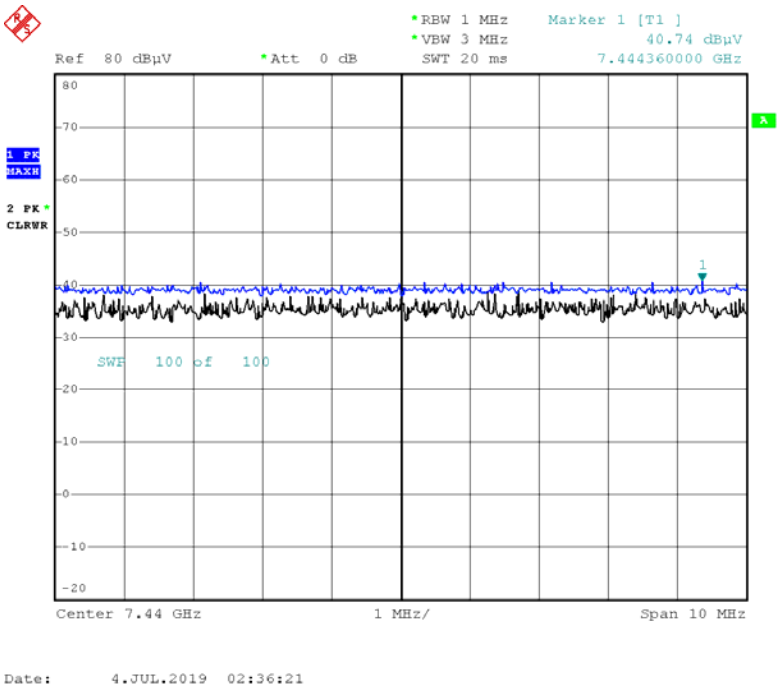
RSE

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
7440	40.74	9.82	V	50.56	73.98	23.42	PK
7440	26.77	9.82	V	36.59	53.98	17.39	AV

Radiated Spurious Emissions plot – Average Reading



Radiated Spurious Emissions plot – Peak Reading

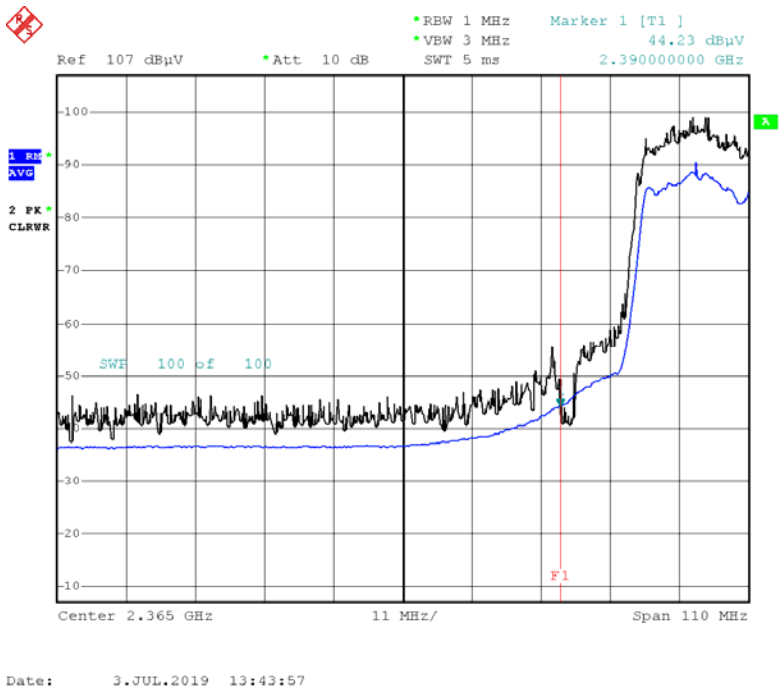


DTS Band Edge (802.11n_6.5Mbps/ch.1)

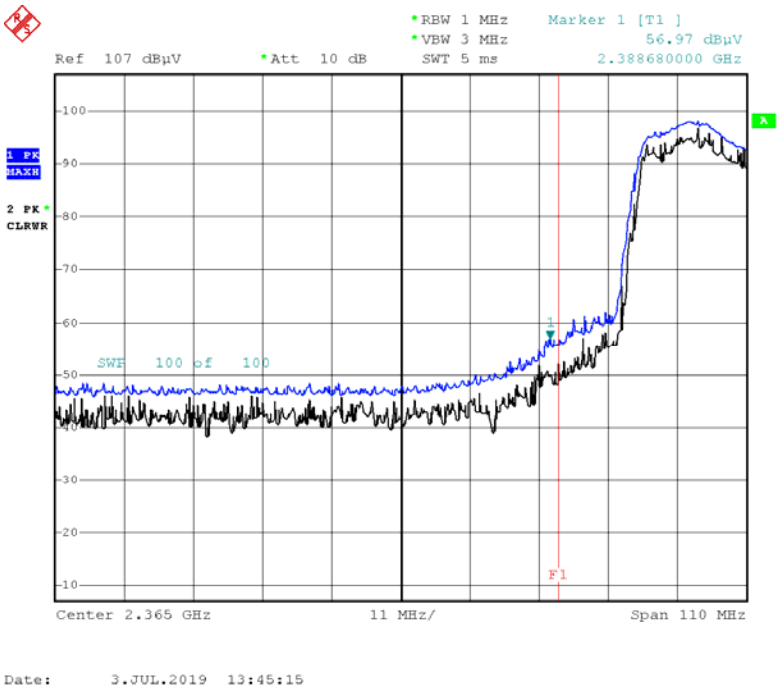
Bandedge

Frequency [MHz]	Reading dBuV	Duty Cycle Factor	※ A.F.+CL [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	56.97	0.00	0.22	V	57.19	73.98	16.79	PK
2390.0	44.23	0.22	0.22	V	44.67	53.98	9.31	AV

Radiated Restricted Band Edges plot – Average Reading



Radiated Restricted Band Edges plot – Peak Reading

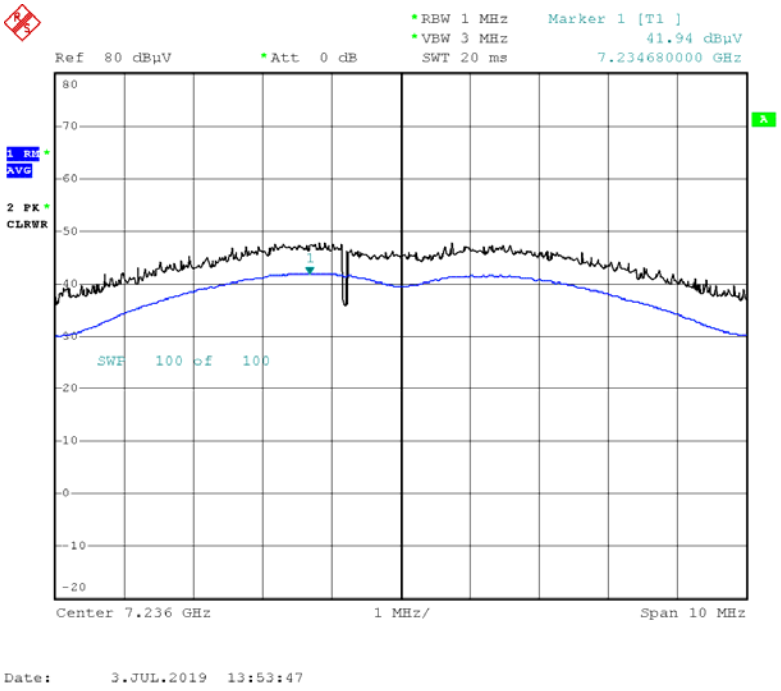


DTS R.S.E 3rd Harmonic (802.11b 1Mbps/ch. 1)

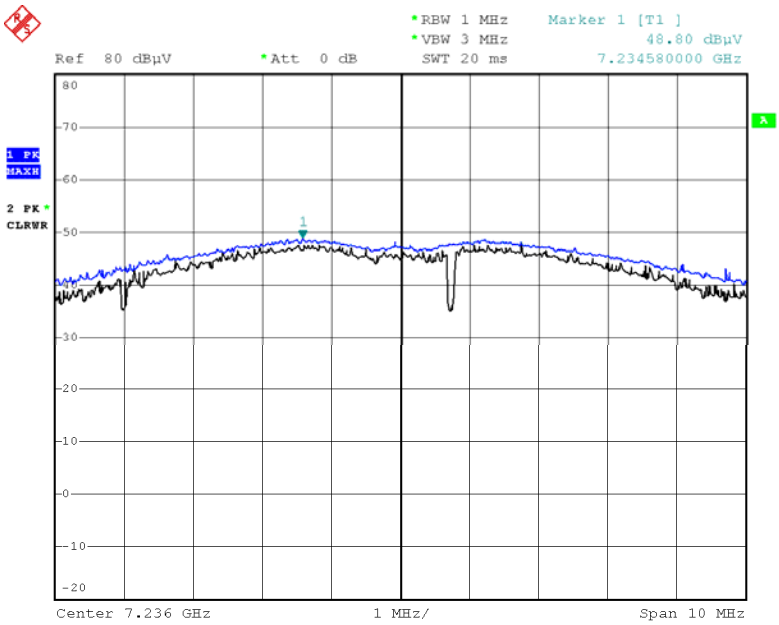
RSE

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
7236	48.80	8.72	H	57.52	73.98	16.46	PK
7236	41.94	8.72	H	50.66	53.98	3.32	AV

Radiated Spurious Emissions plot – Average Reading



Radiated Spurious Emissions plot – Peak Reading



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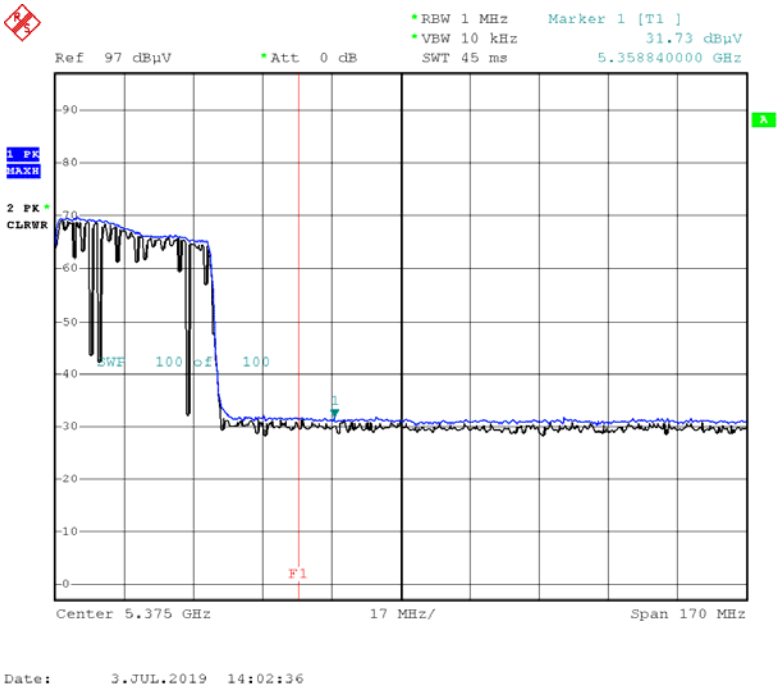
U-NII Band Edge (802.11ac_80MHz MCS0/ch.58)

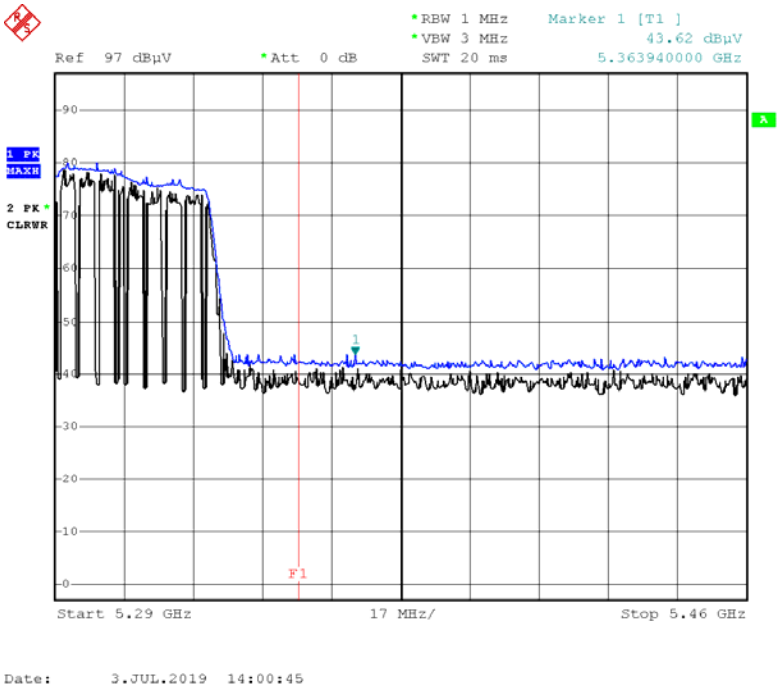
Bandedge

Frequency [MHz]	Reading dBuV	CL+AF+DF-AG [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5350	43.62	11.86	V	55.48	73.98	18.50	PK
5350	31.73	11.86	V	43.59	53.98	10.39	AV

Radiated Restricted Band Edges plot – Average Reading



Radiated Restricted Band Edges plot – Peak Reading



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U-NII R.S.E 3rd Harmonic (802.11a_20MHz 6Mbps/ch.149)

RSE

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
17235	52.20	9.09	V	61.29	68.20	6.91	PK

Radiated Spurious Emissions plot – Peak Reading