

Report No. : FR870418A



# FCC RADIO TEST REPORT

FCC ID	: ACJFZL1A
Equipment	: Tablet Computer
Brand Name	: Panasonic
Model Name	: FZ-L1AC
Marketing Name	: FZ-L1
Applicant	: Panasonic Corporation of North America Two Riverfront Plaza, 9th Floor, Newark, NJ 07102-5490
Manufacturer	: Panasonic Mobile Communications Co., Ltd. 600 Saedo-cho, Tsuzuki-ku, Yokohama City 224-8539, Japan
Standard	: FCC Part 15 Subpart C §15.247

The product was received on Jul. 04, 2018 and testing was started from Oct. 20, 2018 and completed on Nov. 01, 2018. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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## History of this test report

Report No.	Version	Description	Issued Date
FR870418A	01	Initial issue of report	Nov. 13, 2018



## **Summary of Test Result**

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.247(a)(1)	Number of Channels	Pass	-
3.2	15.247(a)(1)	Hopping Channel Separation	Pass	-
3.3	15.247(a)(1)	Dwell Time of Each Channel	Pass	-
3.4	15.247(a)(1)	20dB Bandwidth	Pass	-
3.4	2.1049	99% Occupied Bandwidth	Reporting only	-
3.5	15.247(b)(1)	Peak Output Power	Pass	-
3.6	15.247(d)	Conducted Band Edges	Pass	-
3.7	15.247(d)	Conducted Spurious Emission	Pass	-
3.8	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	Pass	Under limit 4.81 dB at 894.300 MHz
3.9	15.207	AC Conducted Emission	Pass	Under limit 5.01 dB at 13.560 MHz
3.10	15.203 & 15.247(b)	Antenna Requirement	Pass	-

Reviewed by: Wii Chang Report Producer: Maggie Chiang



## **1** General Description

## **1.1 Product Feature of Equipment Under Test**

Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n, NFC, and GNSS.

Product Specification subjective to this standard					
Sample 1 With BCR Landscape					
Sample 2 With BCR Portrait					
Sample 3	Without BCR				
	WLAN: Monopole Antenna				
	Bluetooth: Monopole Antenna				
Antenna Type	GNSS: Monopole Antenna				
	NFC: Loop Antenna				

## **1.2 Modification of EUT**

No modifications are made to the EUT during all test items.

## **1.3 Testing Location**

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.				
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978				
Test Site No.	Sporton	Site No.			
Test one tto.	TH05-HY	CO05-HY			

Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	SPORTON INTERNATIONAL INC.			
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855			
Test Site No.	O3CH13-HY			

Note: The test site complies with ANSI C63.4 2014 requirement.



## **1.4 Applicable Standards**

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- ANSI C63.10-2013

#### Remark:

- 1. All test items were verified and recorded according to the standards and without any deviation during the test.
- 2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

## 2 Test Configuration of Equipment Under Test

## 2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
	0	2402	27	2429	54	2456
	1	2403	28	2430	55	2457
- 	2	2404	29	2431	56	2458
	3	2405	30	2432	57	2459
	4	2406	31	2433	58	2460
	5	2407	32	2434	59	2461
	6	2408	33	2435	60	2462
	7	2409	34	2436	61	2463
	8	2410	35	2437	62	2464
	9	2411	36	2438	63	2465
	10	2412	37	2439	64	2466
	11	2413	38	2440	65	2467
	12	2414	39	2441	66	2468
2400-2483.5 MHz	13	2415	40	2442	67	2469
	14	2416	41	2443	68	2470
	15	2417	42	2444	69	2471
	16	2418	43	2445	70	2472
	17	2419	44	2446	71	2473
	18	2420	45	2447	72	2474
	19	2421	46	2448	73	2475
	20	2422	47	2449	74	2476
	21	2423	48	2450	75	2477
	22	2424	49	2451	76	2478
	23	2425	50	2452	77	2479
	24	2426	51	2453	78	2480
	25	2427	52	2454	-	-
	26	2428	53	2455	-	-

## 2.2 Test Mode

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report, and the worst mode of radiated spurious emissions is Bluetooth 3Mbps mode, and recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

	Summary table of Test Cases							
	Data Rate / Modulation							
Test Item	Bluetooth BR 1Mbps	Bluetooth BR 1Mbps Bluetooth EDR 2Mbps						
	GFSK	$\pi$ /4-DQPSK	8-DPSK					
Conductod	Mode 1: CH00_2402 MHz	Mode 4: CH00_2402 MHz	Mode 7: CH00_2402 MHz					
Conducted	Mode 2: CH39_2441 MHz	Mode 5: CH39_2441 MHz	Mode 8: CH39_2441 MHz					
Test Cases	Mode 3: CH78_2480 MHz	Mode 6: CH78_2480 MHz	Mode 9: CH78_2480 MHz					
	В	luetooth EDR 3Mbps 8-DPS	К					
Radiated	Mode 1: CH00_2402 MHz							
Test Cases		Mode 2: CH39_2441 MHz						
Test Cases		Mode 2: CH39_2441 MHz Mode 3: CH78_2480 MHz						
Test Cases	Mode 1: WLAN (2.4GHz) L		on + Earphone + SD Card +					
		Mode 3: CH78_2480 MHz						
AC		Mode 3: CH78_2480 MHz ink + Bluetooth Link + NFC C						
AC Conducted	USB Cable 2 (Dat	Mode 3: CH78_2480 MHz ink + Bluetooth Link + NFC C						
AC Conducted Emission Remark:	USB Cable 2 (Dat for Sample 3	Mode 3: CH78_2480 MHz ink + Bluetooth Link + NFC C	lle (Charging from Adapter)					

The following summary table is showing all test modes to demonstrate in compliance with the standard.

2. For Radiated Test Cases, the tests were performed with Sample 3.

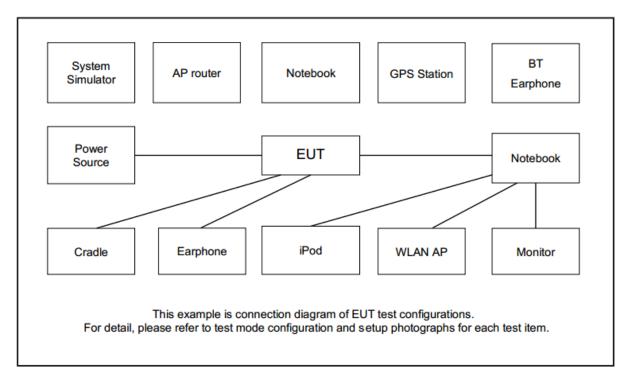
frequencies found in conducted spurious emission.

3. Data Linking with Notebook means data application transferred mode between EUT and Notebook.

edge measurement for other data rates were not worse than 3Mbps, and no other significantly



## 2.3 Connection Diagram of Test System



## 2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Base Station	R&S	CBT32	N/A	N/A	Unshielded, 1.8m
2.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
3.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8m
4.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0m	iPod
5.	IPod Earphone	Apple	N/A	FCC DoC	Shielded, 1.2m	N/A
6.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8m
7.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

## 2.5 EUT Operation Test Setup

The RF test items, utility "QRCT" was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to contact with base station to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.



## 2.6 Measurement Results Explanation Example

#### For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)



## 3 Test Result

## 3.1 Number of Channel Measurement

## 3.1.1 Limits of Number of Hopping Frequency

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

## 3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

## 3.1.3 Test Procedure

- 1. The testing follows ANSI C63.10-2013 clause 7.8.3.
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Enable the EUT hopping function.
- Use the following spectrum analyzer settings: Span = the frequency band of operation;
   RBW = 300kHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold.
- 6. The number of hopping frequency used is defined as the number of total channel.
- 7. Record the measurement data derived from spectrum analyzer.

## 3.1.4 Test Setup



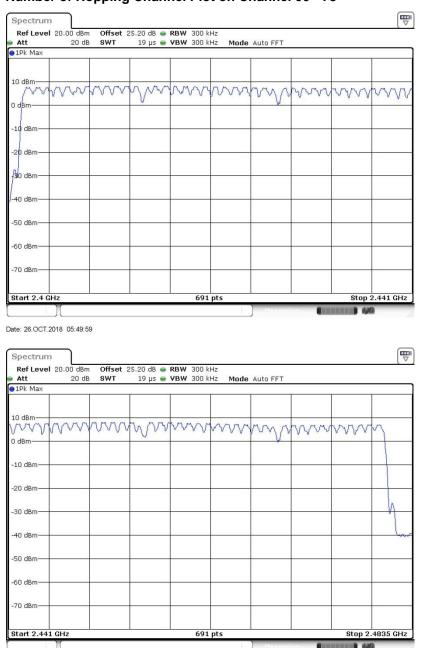
Spectrum Analyzer

EUT



## 3.1.5 Test Result of Number of Hopping Frequency

Please refer to Appendix A.



#### Number of Hopping Channel Plot on Channel 00 - 78

Date: 26.OCT.2018 05:50:53

## **3.2 Hopping Channel Separation Measurement**

## 3.2.1 Limit of Hopping Channel Separation

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

## **3.2.2 Measuring Instruments**

See list of measuring equipment of this test report.

## 3.2.3 Test Procedures

- 1. The testing follows ANSI C63.10-2013 clause 7.8.2.
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Enable the EUT hopping function.
- Use the following spectrum analyzer settings:
   Span = wide enough to capture the peaks of two adjacent channels;
   RBW = 300kHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold.
- 6. Measure and record the results in the test report.

## 3.2.4 Test Setup



Spectrum Analyzer

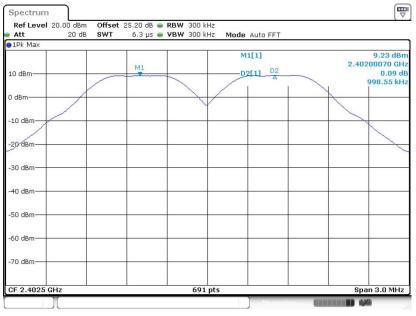
## 3.2.5 Test Result of Hopping Channel Separation

Please refer to Appendix A.



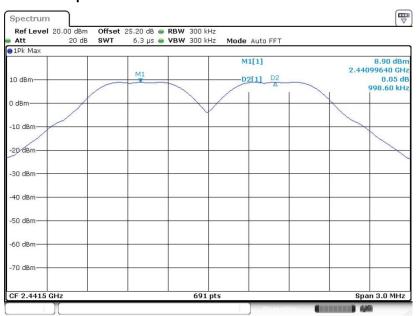
#### <1Mbps>

#### **Channel Separation Plot on Channel 00 - 01**



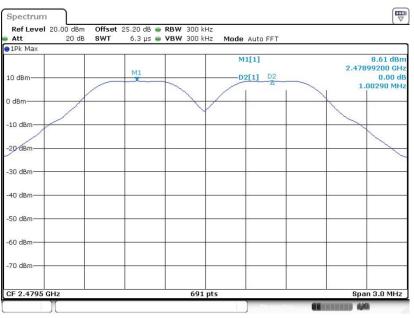
Date: 26.OCT.2018 05:57:05

#### **Channel Separation Plot on Channel 39 - 40**



Date: 26.OCT.2018 06:05:15



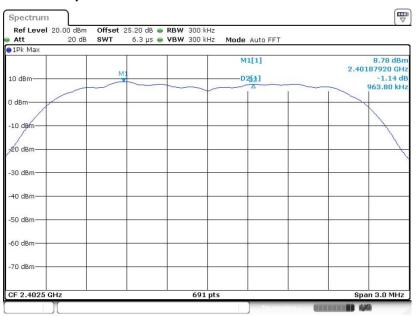


#### Channel Separation Plot on Channel 77 - 78

Date: 26.OCT.2018 06:09:24

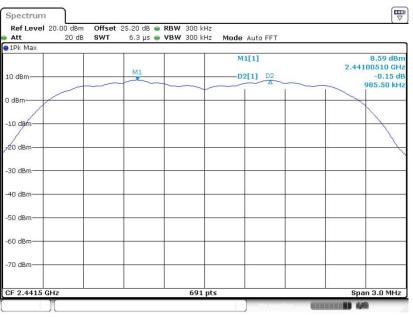
#### <2Mbps>

#### **Channel Separation Plot on Channel 00 - 01**



Date: 26.OCT.2018 06:26:40

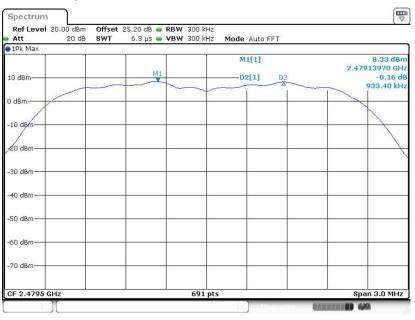




### Channel Separation Plot on Channel 39 - 40

Date: 26.OCT.2018 06:33:41

#### **Channel Separation Plot on Channel 77 - 78**

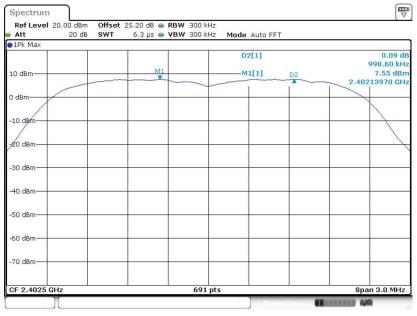


Date: 26.OCT.2018 06:40:01



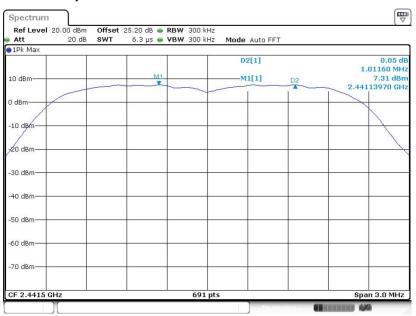
#### <3Mbps>

#### **Channel Separation Plot on Channel 00 - 01**



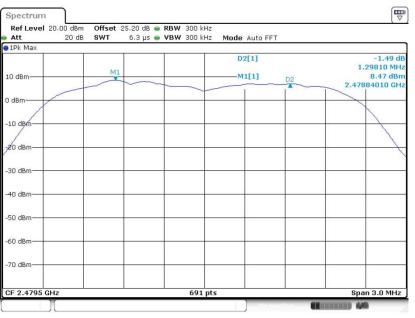
Date: 26.OCT.2018 06:48:20

#### **Channel Separation Plot on Channel 39 - 40**



Date: 26.OCT.2018 06:55:47





## Channel Separation Plot on Channel 77 - 78

Date: 26.OCT.2018 07:03:16



## 3.3 Dwell Time Measurement

## 3.3.1 Limit of Dwell Time

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

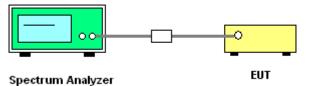
## 3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

## 3.3.3 Test Procedures

- 1. The testing follows ANSI C63.10-2013 clause 7.8.4.
- The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Enable the EUT hopping function.
- 5. Use the following spectrum analyzer settings: Span = zero span, centered on a hopping channel; RBW = 1 MHz; VBW ≥ RBW; Sweep = as necessary to capture the entire dwell time per hopping channel; Detector function = peak; Trace = max hold.
- 6. Measure and record the results in the test report.

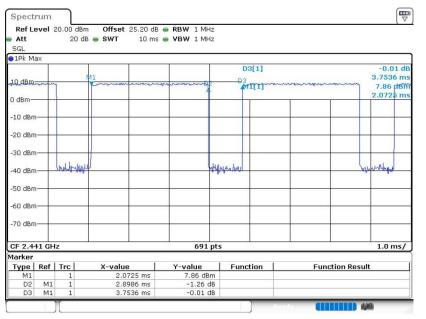
## 3.3.4 Test Setup



## 3.3.5 Test Result of Dwell Time

Please refer to Appendix A.





Package Transfer Time Plot

Date: 20.0CT.2018 19:20:44

#### Remark:

**1.** In normal mode, hopping rate is 1600 hops/s with 6 slots in 79 hopping channels. With channel hopping rate (1600 / 6 / 79) in Occupancy Time Limit  $(0.4 \times 79)$  (s),Hops Over Occupancy Time comes to  $(1600 / 6 / 79) \times (0.4 \times 79) = 106.67$  hops.

**2.** In AFH mode, hopping rate is 800 hops/s with 6 slots in 20 hopping channels. With channel hopping rate (800 / 6 / 20) in Occupancy Time Limit  $(0.4 \times 20)$  (s), Hops Over Occupancy Time comes to  $(800 / 6 / 20) \times (0.4 \times 20) = 53.33$  hops.

3. Dwell Time(s) = Hops Over Occupancy Time (hops) x Package Transfer Time

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Report Template No.: BU5-FR15CBT Version 2.1	Report Version	: 01



## 3.4 20dB and 99% Bandwidth Measurement

## 3.4.1 Limit of 20dB and 99% Bandwidth

Reporting only

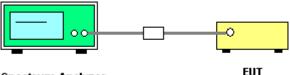
## 3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

## 3.4.3 Test Procedures

- 1. The testing follows ANSI C63.10-2013 clause 6.9.2 and 6.9.3.
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- Use the following spectrum analyzer settings for 20dB Bandwidth measurement.
  Span = approximately 2 to 5 times the 20 dB bandwidth, centered on a hopping channel;
  RBW ≥ 1% of the 20 dB bandwidth; VBW ≥ RBW; Sweep = auto; Detector function = peak;
  Trace = max hold.
- Use the following spectrum analyzer settings for 99 % Bandwidth measurement.
   Span = approximately 1.5 to 5 times the 99% bandwidth, centered on a hopping channel;
   RBW ≥ 1-5% of the 99% bandwidth; VBW ≥ 3 \* RBW; Sweep = auto; Detector function = peak;
   Trace = max hold.
- 6. Measure and record the results in the test report.

## 3.4.4 Test Setup



Spectrum Analyzer

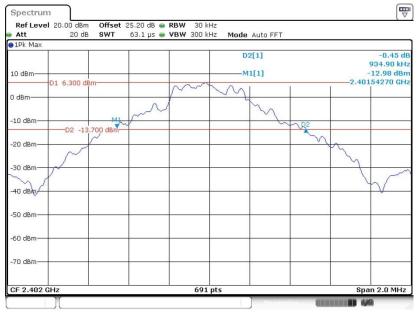
## 3.4.5 Test Result of 20dB Bandwidth

Please refer to Appendix A.



#### <1Mbps>

#### 20 dB Bandwidth Plot on Channel 00



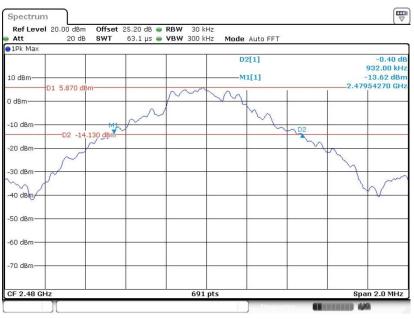
Date: 26.OCT.2018 05:58:30

#### 20 dB Bandwidth Plot on Channel 39



Date: 26.OCT.2018 06:06:25





#### 20 dB Bandwidth Plot on Channel 78

Date: 26.OCT.2018 06:10:36

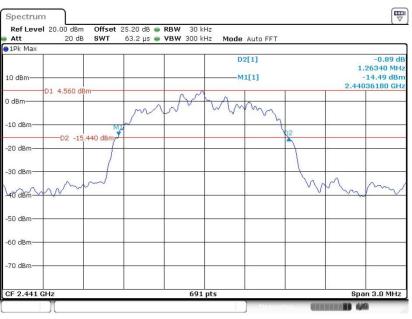
#### <2Mbps>

#### 20 dB Bandwidth Plot on Channel 00



Date: 26.OCT.2018 06:28:25

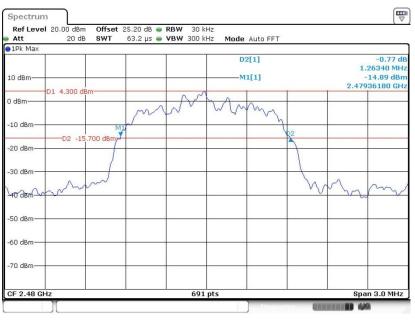




#### 20 dB Bandwidth Plot on Channel 39

Date: 26.OCT.2018 06:34:56

#### 20 dB Bandwidth Plot on Channel 78

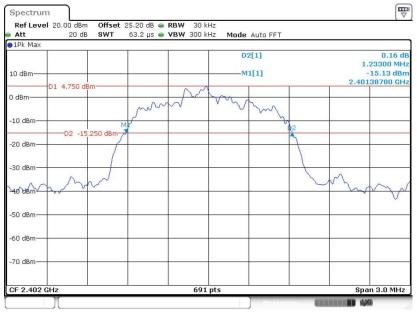


Date: 26.OCT.2018 06:42:05



#### <3Mbps>

#### 20 dB Bandwidth Plot on Channel 00



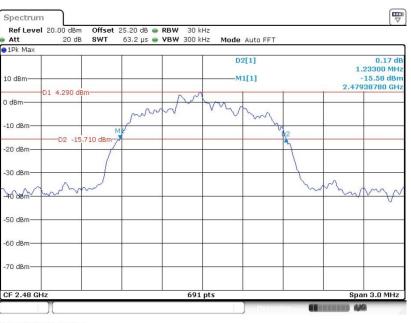
Date: 26.OCT.2018 06:49:48

#### 20 dB Bandwidth Plot on Channel 39



Date: 26.OCT.2018 06:57:27





#### 20 dB Bandwidth Plot on Channel 78

Date: 26.OCT.2018 07:04:22

## 3.4.6 Test Result of 99% Occupied Bandwidth

Please refer to Appendix A.

#### <1Mbps>

#### 99% Occupied Bandwidth Plot on Channel 00



Date: 26.OCT.2018 06:01:24





### 99% Occupied Bandwidth Plot on Channel 39

Date: 26.OCT.2018 06:07:19



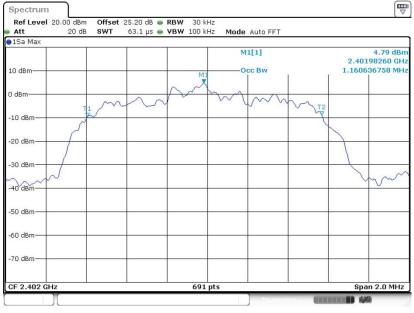


Date: 26.OCT.2018 06:14:02



#### <2Mbps>

#### 99% Occupied Bandwidth Plot on Channel 00



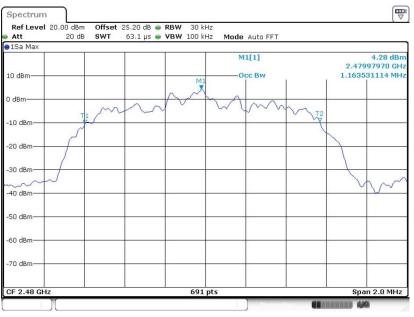
Date: 26.OCT.2018 06:29:51

#### 99% Occupied Bandwidth Plot on Channel 39



Date: 26.OCT.2018 06:35:39



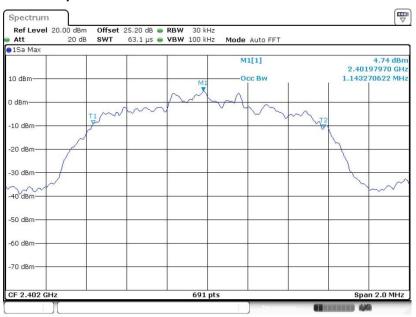


#### 99% Occupied Bandwidth Plot on Channel 78

Date: 26.OCT.2018 06:43:45

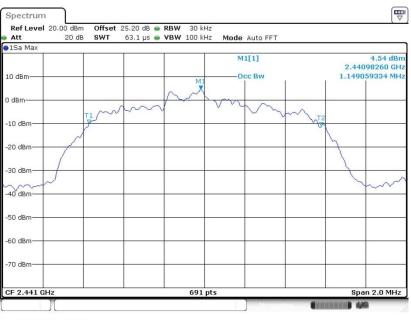
#### <3Mbps>

#### 99% Occupied Bandwidth Plot on Channel 00



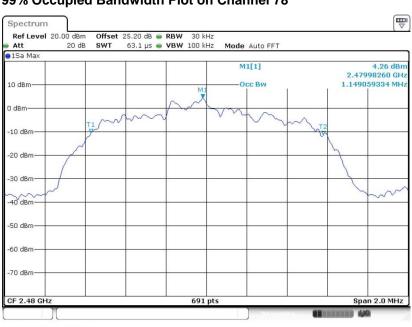
Date: 26.OCT.2018 06:50:59





### 99% Occupied Bandwidth Plot on Channel 39

Date: 26.OCT.2018 06:58:05



#### 99% Occupied Bandwidth Plot on Channel 78

Date: 26.OCT.2018 07:05:27

Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.



## 3.5 Output Power Measurement

## 3.5.1 Limit of Output Power

The maximum peak conducted output power of the intentional radiator shall not exceed the following: (1) For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band 0.125 watts. The power limit for 1Mbps, 2Mbps, 3Mbps and AFH modes are 0.125 watts.

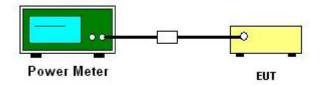
## 3.5.2 Measuring Instruments

See list of measuring equipment of this test report.

### 3.5.3 Test Procedures

- 1. The testing follows ANSI C63.10-2013 clause 7.8.5.
- 2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Measure the conducted output power with cable loss and record the results in the test report.
- 5. Measure and record the results in the test report.

## 3.5.4 Test Setup



## 3.5.5 Test Result of Peak Output Power

Please refer to Appendix A.

## 3.5.6 Test Result of Average Output Power (Reporting Only)

Please refer to Appendix A.



## 3.6 Conducted Band Edges Measurement

## 3.6.1 Limit of Band Edges

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.

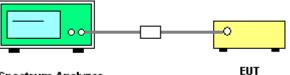
## 3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

## 3.6.3 Test Procedures

- 1. The testing follows ANSI C63.10-2013 clause 7.8.6.
- 2. Set to the maximum power setting and enable the EUT transmit continuously.
- 3. Set RBW = 100kHz, VBW = 300kHz. Band edge emissions must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100kHz RBW. The attenuation shall be 30 dB instead of 20 dB when RMS conducted output power procedure is used.
- 4. Enable hopping function of the EUT and then repeat step 2. and 3.
- 5. Measure and record the results in the test report.

## 3.6.4 Test Setup



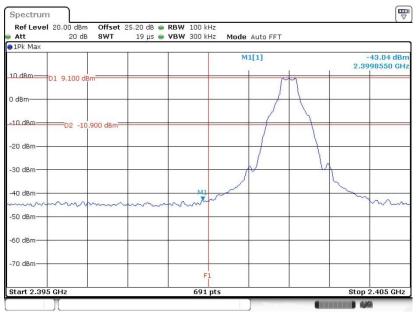
Spectrum Analyzer



## 3.6.5 Test Result of Conducted Band Edges

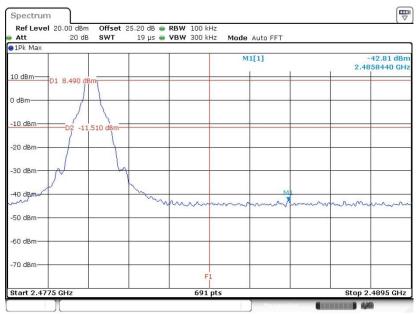
#### <1Mbps>

#### Low Band Edge Plot on Channel 00



Date: 26.OCT.2018 06:00:11

#### High Band Edge Plot on Channel 78

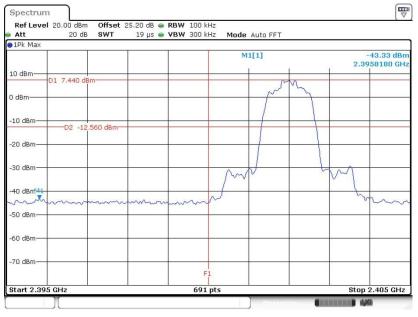


Date: 26.OCT.2018 06:12:49



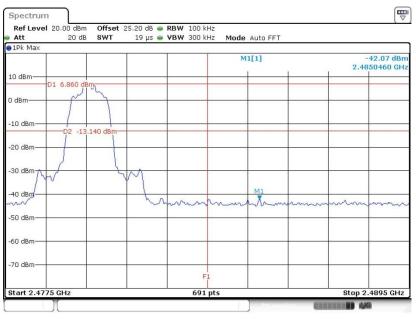
#### <2Mbps>

#### Low Band Edge Plot on Channel 00



Date: 26.OCT.2018 06:29:15

#### High Band Edge Plot on Channel 78

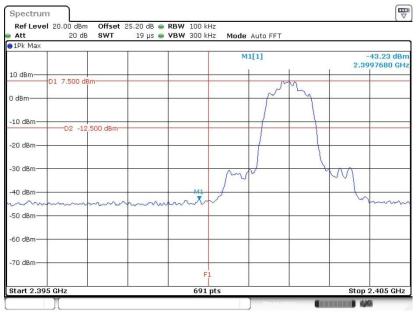


Date: 26.OCT.2018 06:43:08



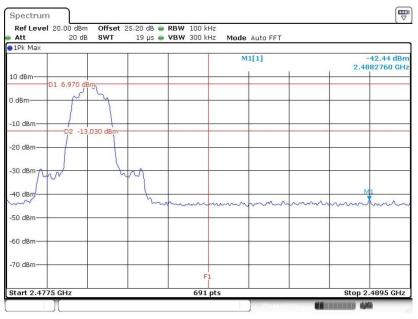
#### <3Mbps>

#### Low Band Edge Plot on Channel 00



Date: 26.OCT.2018 06:50:21

#### High Band Edge Plot on Channel 78

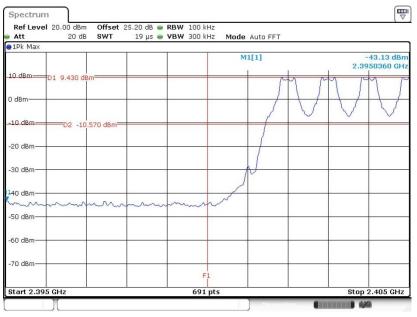


Date: 26.OCT.2018 07:05:47

## 3.6.6 Test Result of Conducted Hopping Mode Band Edges

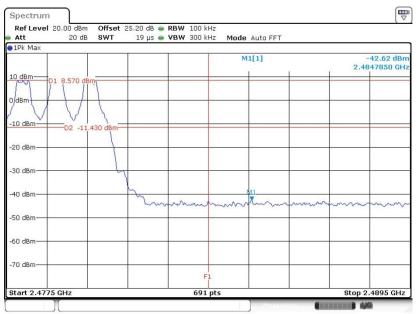
#### <1Mbps>

#### Hopping Mode Low Band Edge Plot



Date: 26.OCT.2018 05:54:56

#### Hopping Mode High Band Edge Plot

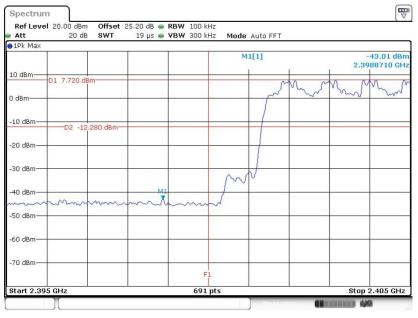


Date: 26.OCT.2018 05:55:18



#### <2Mbps>

#### Hopping Mode Low Band Edge Plot



Date: 26.OCT.2018 05:53:29

#### Hopping Mode High Band Edge Plot

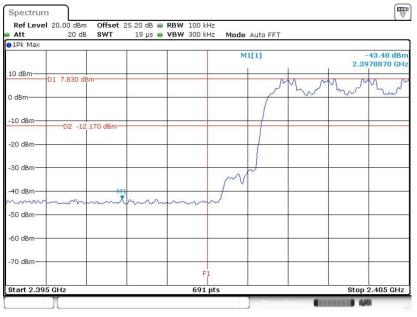


Date: 26.OCT.2018 05:53:51



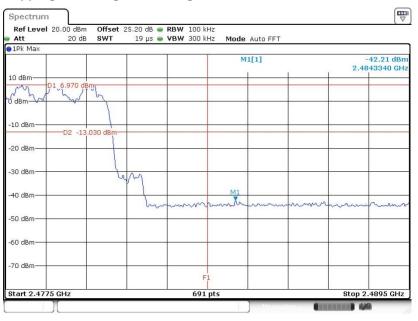
#### <3Mbps>

#### Hopping Mode Low Band Edge Plot



Date: 26.OCT.2018 05:51:50

#### Hopping Mode High Band Edge Plot



Date: 26.OCT.2018 05:52:18

## 3.7 Conducted Spurious Emission Measurement

## 3.7.1 Limit of Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.

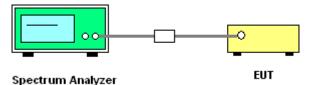
## 3.7.2 Measuring Instruments

See list of measuring equipment of this test report.

## 3.7.3 Test Procedure

- 1. The testing follows ANSI C63.10-2013 clause 7.8.8.
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- Set RBW = 100 kHz, VBW = 300kHz, scan up through 10th harmonic. All harmonics / spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.
- 5. Measure and record the results in the test report.
- 6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

## 3.7.4 Test Setup

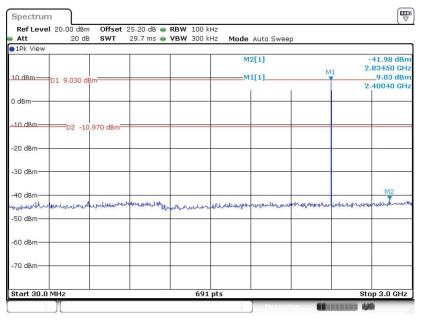


TEL : 886-3-327-3456 FAX : 886-3-328-4978 Report Template No.: BU5-FR15CBT Version 2.1

## 3.7.5 Test Result of Conducted Spurious Emission

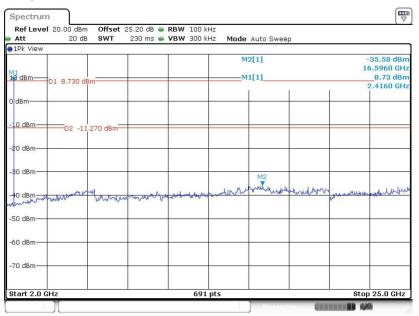
#### <1Mbps>

#### CSE Plot on Ch 00 between 30MHz ~ 3 GHz



Date: 26.OCT.2018 06:03:20

#### 1Mbps CSE Plot on Ch 00 between 2 GHz ~ 25 GHz



Date: 26.OCT.2018 06:03:49



Att	20.00 dBm 20 dB	SWT	25.20 dB	VBW 300		Auto Swee	n		
1Pk View					induc	Hato once	P		
10 dBm	D1 8.540 dBr					1[1] 2[1]		M1	8.54 dBr 2.43910 GH -41.45 dBr
) dBm						-		1	1.03790 GH
10 dBm	D2 -11.4	460 dBm-							
20 dBm									
-30 dBm									
40 dBm-	ununun	eductructur	M2 Mharmany	Laprovenese	manauthor	Amashing	whenter	and mark	uninmonthe
50 dBm									
60 dBm									
-70 dBm									
	MHz			-	1 pts				Stop 3.0 GHz

### CSE Plot on Ch 39 between 30MHz ~ 3 GHz

Date: 26.OCT.2018 06:07:51

#### CSE Plot on Ch 39 between 2 GHz ~ 25 GHz

Att	el 20.00 dBm 20 dB	SWT		RBW 100 k VBW 300 k		Auto Swee	р		
1Pk View				1					
					M	11[1]			7.86 dBr 2.4490 GH
dBm—		0.000 1			M	12[1]			-35.91 dBi
	D1 7.860 dB	m				T	1	1	6.8620 GH
dBm—			-					-	
10 dBm—	D2 -12.	140 dBm-		-					
20 dBm—									
30 dBm—				-		MO		-	
				and water by	I N.L	M2			1. 1
40 dBm	hamper hard	- warmen	a higher with	and work has by	and stylen w	a a construction	Munghow	or the state way	mahandhak
50 dBm—									
60 dBm—									
70 dBm—									
Start 2.0	CH7			691	pts			Stor	25.0 GHz

Date: 26.OCT.2018 06:08:19



	el 20.00 dBm			RBW 100 k					
Att	20 dB	SWT	29.7 ms 🖷	<b>VBW</b> 300 k	Hz Mode	Auto Swee	0		
10 dBm-	D1 8.530 dBn	n				1[1] 2[1]		M1	8.53 dBn 2.48210 GH -41.32 dBn 2.92050 GH
0 dBm				-					
-10 dBm—	D2 -11.4	170 dBm-							
-20 dBm—									
-30 dBm—									
-40 dBm	Muranded	Markardhal	highlangengh	dunsahiltrand	Hundrowedd	manna	Monogenthelisterale	when	M2 and more and the second s
60 dBm—									
70 dBm—									
Start 30.0				601	pts				Stop 3.0 GHz

### CSE Plot on Ch 78 between 30MHz ~ 3 GHz

Date: 26.OCT.2018 06:14:56

#### CSE Plot on Ch 78 between 2 GHz ~ 25 GHz

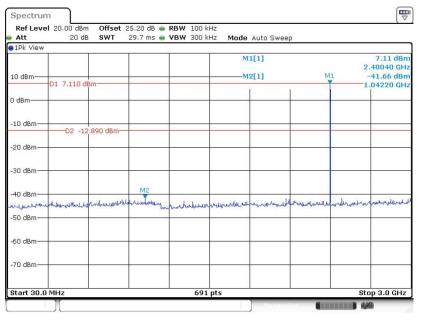
thi dBm     01     7.180 dBm     -35.65 dBm       10     dBm     -35.65 dBm     -35.65 dBm       20     dBm     -30.65 dBm     -30.65 dBm       30     dBm     -30.65 dBm     -30.65 dBm       -50     dBm     -30.65 dBm     -30.65 dBm       -60 dBm     -30.65 dBm     -30.65 dBm     -30.65 dBm	Att	20 dB SWT	230 ms 🥌 VB	W 300 kHz Mod	le Auto Sweep		
0 dBm     10 dBm     10 dBm     10 dBm       20 dBm     10 dBm     10 dBm     10 dBm       30 dBm     10 dBm     10 dBm     10 dBm       30 dBm     10 dBm     10 dBm     10 dBm       40 dBm     10 dBm     10 dBm     10 dBm       50 dBm     10 dBm     10 dBm     10 dBm       60 dBm     10 dBm     10 dBm     10 dBm	10-dBm	7.180 dBm					7.18 dBr 2.4830 GH -35.65 dBr 19.5910 GH
02         -12.820 dBm	dBm						
30 dBm 40 dBm 50 dBm 60 dBm		-D2 -12.820 dBm					
40 dBm - M2 40 dBm - Market de server de serv	20 dBm						
50 dBm	-30 dBm						
60 dBm	40 dBm	white white	with month month	wayna de server	wohndublich	well when would	allowingunat
	50 dBm						
	60 dBm				_		
70 dBm	70 dBm						

Date: 26.OCT.2018 06:15:25



#### <2Mbps>

#### CSE Plot on Ch 00 between 30MHz ~ 3 GHz



Date: 26.OCT.2018 06:30:35

#### CSE Plot on Ch 00 between 2 GHz ~ 25 GHz

Ref Leve	20.00 dBm 20 dB	Offset SWT		RBW 100		Auto Swee	n		
1Pk View					in a moue	Hato Shoo	2		
10 dBm		1990 V.				1[1] 2[1]			6.20 dBn 2.4160 GH: 34.97 dBn 5.7970 GH:
) dBm	D1 6.200 dBr	n		-					3.7970 GH.
10 dBm—	D2 -13.6	300 dBm							
20 dBm									
30 dBm—					President Mar	2 Multime			
	har washing	trung	Amonta	to a series of the series of t	- warder and the		www.www.	When wande do	warder
50 dBm									
60 dBm—									
70 dBm—									
Start 2.0	GHz		1	691	l pts			Stor	25.0 GHz

Date: 26.OCT.2018 06:31:05



Att	20 dB	SWT	29.7 ms 🦷	VBW 300	kHz Mode	Auto Swee	p		
1Pk View				1					
					M	2[1]			-41.97 dBn 2.25860 GH
10 dBm					M	1[1]		M1	6.99 dBr
20 0011	D1 6.990 dB	m						.1	2.43910 GH
D dBm									
5 GDIII									
-10 dBm									
10 000	D2 -13.	010 dBm-			-				
-20 dBm									
Lo dom									
-30 dBm									
oo abiii									
-40 dBm							M2		
week Lower Holly	mununun	barrentedet	uneshauthaura	man resilicity	an man mound	halphinete	allementer	ant-Utwo	Jupphing head should be
-50 dBm									
-60 dBm									
-70 dBm									
								1	
				2					
Start 30.0	MHZ			693	1 pts				Stop 3.0 GHz

#### CSE Plot on Ch 39 between 30MHz ~ 3 GHz

Date: 26.OCT.2018 06:38:19

#### CSE Plot on Ch 39 between 2 GHz ~ 25 GHz

Ref Leve Att	20.00 dBm 20 dB	Offset SWT	25.20 dB 👄	<b>RBW</b> 100 k <b>VBW</b> 300 k		Auto Swee	n		
1Pk View					induc	Hato oneo	2		
					M	2[1]			35.06 dBn 5.3290 GH
10 dBm-					M	1[1]		10	6.67 dBr
Ť	D1 6.670 dB	lm-				1	I	1	2.4490 GH
0 dBm						-			
-10 dBm—									
	D2 -13.	.330 dBm-							
-20 dBm									
-30 dBm—						M2			
	marter	w) ,	h l	يابد له	A ushahalit	Mil Million when the	muniper	mennemen	a la mandaret
Antonio	leventereteret	allunger	all and the	Part course and				U. Low	
-50 dBm—									
-60 dBm					-		-		
70 dBm									
Start 2.0	GHz		1	691	pts	1		Stop	25.0 GHz

Date: 26.OCT.2018 06:38:46



Att	20 dB	SWT	29.7 ms 🧉	<b>VBW</b> 300	kHz Mode	Auto Swee	p		
1Pk View	· · · · · ·		-		1				
					M	1[1]			6.59 dBn 2.48210 GH
10 dBm				_	M	2[1]		M1	-41.35 dBn
	D1 6.590 dBr	m				1	ī.	. 1	-2.75290 GH
0 dBm									
-10 dBm—				_					
	D2 -13.4	410 dBm-	-		-				
-20 dBm			-		-				
-30 dBm—			-		-				
									M2
-40 dBm—	unburner		a dite a litera a d		lat de		and the local state		
	named and the second	and the second	man a strand	water when the second	un hut have been a start	manderand	and really and they	and so	the funder of the second s
-50 dBm—									
-60 dBm									
-00 abin									
-70 dBm									
			1						

### CSE Plot on Ch 78 between 30MHz ~ 3 GHz

Date: 26.OCT.2018 06:44:22

#### CSE Plot on Ch 78 between 2 GHz ~ 25 GHz

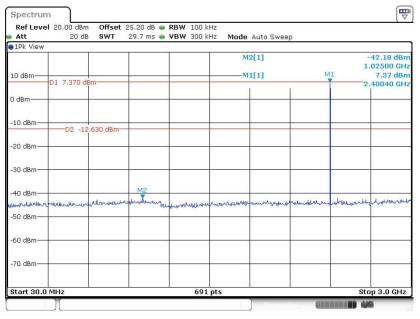
Att	20 dB	SWT	230 ms 👄	<b>VBW</b> 300 k	Hz Mode	Auto Swee	þ		
1Pk View	-D1 6.770 dB/	n				1[1] 2[1]			6.77 dBr 2.4830 GH 35.69 dBr 5.2310 GH
D dBm			-						
-10 dBm—	D2 -13.	230 dBm							
-20 dBm—	-								
-30 dBm—					M2				
40 dBm	menderedtert	throww	up to the way of the	ywww.	where the	non margare	munnikalan	the whether	mannabhur
-50 dBm—									
-60 dBm—									
-70 dBm—									
Start 2.0				691					25.0 GHz

Date: 26.OCT.2018 06:44:50



#### <3Mbps>

#### CSE Plot on Ch 00 between 30MHz ~ 3 GHz



Date: 26.OCT.2018 06:52:19

#### CSE Plot on Ch 00 between 2 GHz ~ 25 GHz

Ref Level 20.00 dBm Att 20 dB		dB 👄 <b>RBW</b> 100 ki ms 👄 <b>VBW</b> 300 ki		10	
1Pk View	0111 2001		INDUE MULO SWOO	.р	
14g dBm			M2[1] M1[1]		-35.28 dBn 15.7970 GH: 5.83 dBn
D1 5.830 dB	m				2.4160 GH:
10 dBm	170 dBm				
20 dBm					
30 dBm	Ja i	. b	me	when helling	manumber
40 dBm	"how we have	D.C. Carlo alanda a	woy ····		
60 dBm					
70 dBm					
Start 2.0 GHz		691	nts		Stop 25.0 GHz

Date: 26.OCT.2018 06:52:50