

# **FCC Test Report**

Report No.: AGC00564190601FE08

FCC ID : 2AFD9NETMAX

APPLICATION PURPOSE : Original Equipment

**PRODUCT DESIGNATION**: TABLET

**BRAND NAME** : KRONO

**MODEL NAME** : NET\_MAX

**APPLICANT** : MOVEON TECHNOLOGY LIMITED

**DATE OF ISSUE** : Aug. 15, 2019

**STANDARD(S)** : FCC Part 15.247

**REPORT VERSION**: V1.0

### Attestation of Global Compliance (Shenzhen) Co., Ltd

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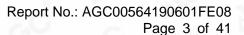


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#### REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes	
V1.0	9/	Aug. 15, 2019	Valid	Initial Release	







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#### 1. VERIFICATION OF COMPLIANCE

MOVEON TECHNOLOGY LIMITED			
World Trade Plaza-A block#3201-3202 Fuhong Road,Futian			
MOVEON TECHNOLOGY LIMITED			
World Trade Plaza-A block#3201-3202 Fuhong Road,Futian			
MOVEON TECHNOLOGY LIMITED			
World Trade Plaza-A block#3201-3202 Fuhong Road,Futian			
TABLET			
KRONO			
NET_MAX			
June 12, 2019~Aug. 15, 2019			
None			
Normal			
Pass			
AGCRT-US-BLE/RF			

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC part 15.247.

Prepared By

Jeast Zhan
(Project Engineer)

Aug. 15, 2019

Max Zhang
(Reviewer)

Aug. 15, 2019

Approved By

Forrest Lei
(Authorized Officer)

Aug. 15, 2019

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### 2.GENERAL INFORMATION

#### 2.1PRODUCT DESCRIPTION

The EUT is designed as a "TABLET". It is designed by way of utilizing the GFSK technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency 2.402 GHz to 2.480GHz	
RF Output Power	-6.902dBm(Max)
Bluetooth Version	V4.0
Modulation  BR □GFSK, EDR □π /4-DQPSK, □8DPSK BLE □GFSK 1Mbps □GFSK 2Mbps	
Number of channels 40 Channel	
Antenna Designation PIFA Antenna (Comply with requirements of the FCC part 15.203	
Antenna Gain 1.0dBi	
Hardware Version RC_K960	
Software Version K706.O1.V10.8.RC-V04.6276	
Power Supply DC 3.7V by Built-in Li-ion Battery	

#### 2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency	
- GO - C	0	2402MHZ	
No.	ر کا کا	2404MHZ	
2400~2483.5MHZ	10° 60	· : N	
NO CO	38	2478 MHZ	
	39	2480 MHZ	



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#### 2.3 RELATED SUBMITTAL(S)/GRANT(S)

This submittal(s) (test report) is intended for **FCC ID: 2AFD9NETMAX** filing to comply with the FCC Part 15.247 requirements.

#### 2.4TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013). Radiated testing was performed at an antenna to EUT distance 3 meters.

#### 2.5 SPECIAL ACCESSORIES

Refer to section 2.2.

#### 2.6 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.





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#### 3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ±U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

- Uncertainty of Conducted Emission, Uc = ±3.2 dB
- Uncertainty of Radiated Emission below 1GHz, Uc = ±3.9 dB
- Uncertainty of Radiated Emission above 1GHz, Uc = ±4.8 dB
- Uncertainty of total RF power, conducted,  $Uc = \pm 0.8dB$
- Uncertainty of RF power density, conducted, Uc = ±2.6dB
- Uncertainty of spurious emissions, conducted, Uc = ±2.7dB
- Uncertainty of Occupied Channel Bandwidth: Uc = ±2 %





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#### 4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION			
1	Low channel TX			
2	Middle channel TX			
3	High channel TX			

#### Note:

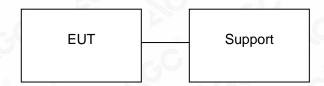
- 1. Only the result of the worst case was recorded in the report, if no other cases.
- 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
- 3. For Conducted Test method, a temporary antenna connector is provided by the manufacture.



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#### 5. SYSTEM TEST CONFIGURATION

#### **5.1 CONFIGURATION OF TESTED SYSTEM**



#### **5.2 EQUIPMENT USED IN TESTED SYSTEM**

Item	Equipment	Model No.	ID or Specification	Remark
1	TABLET	NET_MAX	2AFD9NETMAX	EUT
2	Adapter	MYT050200WA	DC 5.0V 2000mA	AE
3	Battery	3495103	DC 3.7V 4500mAh	AE
4	USB Cable	N/A	N/A	AE

#### 5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
15.247 (b)(3)	Peak Output Power	Compliant
15.247 (a)(2)	6 dB Bandwidth	Compliant
15.247 (d)	Conducted Spurious Emission	Compliant
15.247 (e)	Maximum Conducted Output Power Density	Compliant
15.209 Radiated Emission		Compliant
15.207 Conducted Emission		Compliant



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#### 6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd			
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China			
<b>Designation Number</b>	CN1259			
FCC Test Firm Registration Number	975832			
A2LA Cert. No.	5054.02			
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA			

#### TEST EQUIPMENT OF CONDUCTED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESPI	101206	Jun. 12, 2019	Jun. 11, 2020
LISN	R&S	ESH2-Z5	100086	Aug. 28, 2018	Aug. 27, 2019

#### TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Jun. 12, 2019	Jun. 11, 2020
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 20, 2018	Dec. 19, 2019
2.4GHz Fliter	Micro-tronics	087	N/A	Jun. 12, 2019	Jun. 11, 2020
Attenuator	Weinachel Corp	58-30-33	N/A	Jun. 12, 2019	Jun. 11, 2020
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep. 21, 2017	Sep. 20, 2020
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	Jun. 14, 2018	Jun. 13, 2020
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May. 17, 2019	May. 16, 2021
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Oct. 25, 2018	Oct. 24, 2019
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep. 28, 2017	Sep. 27, 2019



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#### 7. PEAK OUTPUT POWER

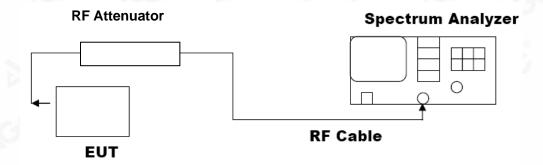
#### 7.1. MEASUREMENT PROCEDURE

For peak power test:

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. RBW≥DTS bandwidth
- 3. VBW≥3\*RBW.
- 4. SPAN≥VBW.
- 5. Sweep: Auto.
- 6. Detector function: Peak.
- 7. Trace: Max hold.

Allow trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power, after any corrections for external attenuators and cables.

## 7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) PEAK POWER TEST SETUP





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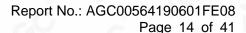
#### 7.3. LIMITS AND MEASUREMENT RESULT

PEAK OUTPUT POWER MEASUREMENT RESULT								
FOR GFSK MOUDULATION								
Frequency (GHz) Peak Power (dBm) Applicable Limits (dBm) Pass or Fail								
2.402	-7.481	30	Pass					
2.440	-7.045	30	Pass					
2.480	-6.902	30	Pass					











#### **CH19**



#### **CH39**





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#### 8. 6 DB BANDWIDTH

#### **8.1. MEASUREMENT PROCEDURE**

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz, VBW ≥ 3×RBW.
- 4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 for compliance to FCC PART 15.247 requirements.

#### 8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 7.2.

#### 8.3. LIMITS AND MEASUREMENT RESULTS

LIMITS AND MEASUREMENT RESULT					
Applicable Limits					
Applicable Limits	Applicable Limits Test Data (kHz)				
CO C	Low Channel	0.7088	PASS		
>500KHZ	Middle Channel	0.7065	PASS		
	High Channel	0.7090	PASS		

#### TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

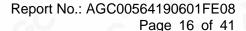




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#### TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



#### TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL





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#### 9. CONDUCTED SPURIOUS EMISSION

#### 9.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 for compliance to FCC PART 15.247 requirements.

#### 9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 7.2.

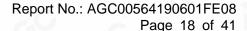
#### 9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.

#### 9.4. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT					
Anathada Limita	Measurement Result				
Applicable Limits	Test Data	Criteria			
In any 100 KHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power.	At least -20dBc than the reference level	PASS PASS			

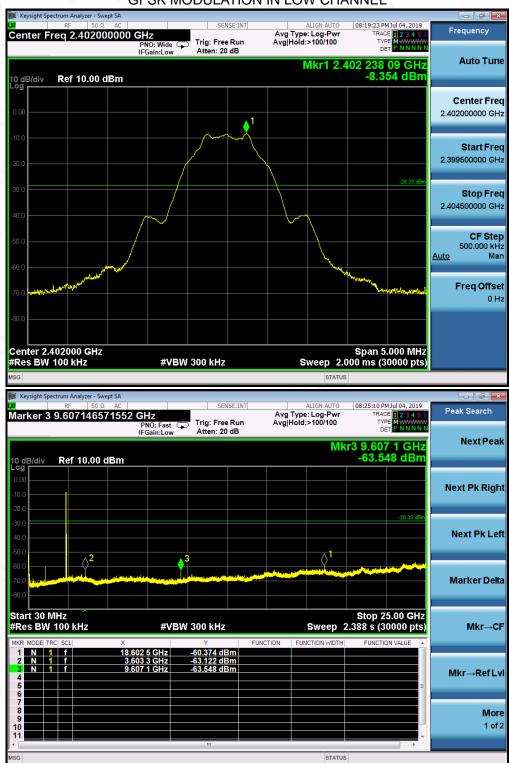






TEST RESULT FOR ENTIRE FREQUENCY RANGE

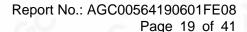
GFSK MODULATION IN LOW CHANNEL





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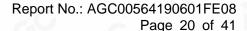


#### GFSK MODULATION IN MIDDLE CHANNEL

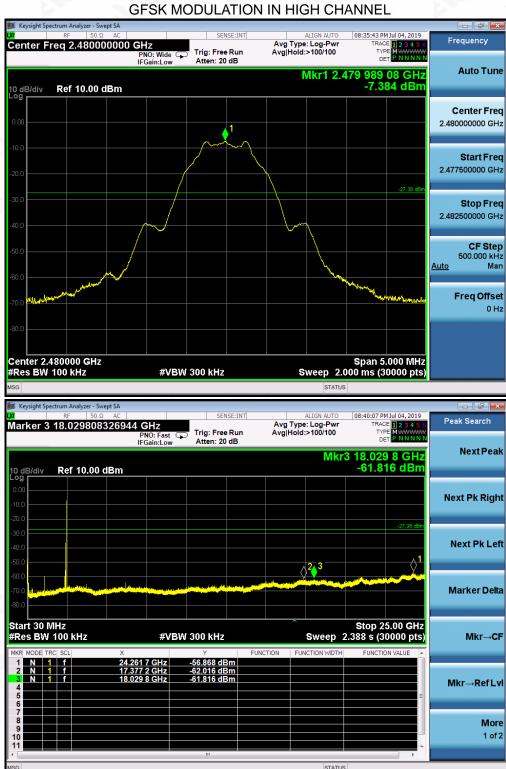




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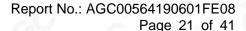
Note: The peak emissions without marker on the above plots are fundamental wave and need not to compare with the limit.



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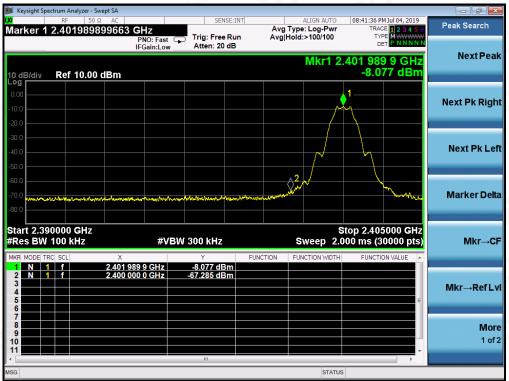
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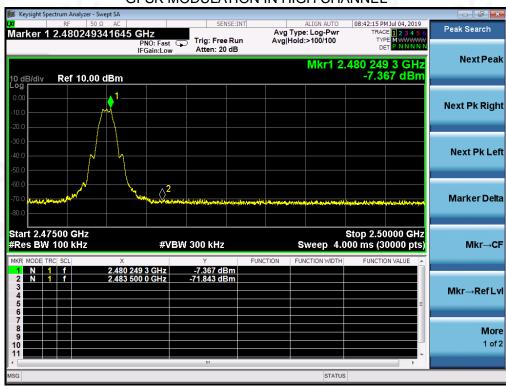


#### **TEST RESULT FOR BAND EDGE**

#### GFSK MODULATION IN LOW CHANNEL



#### GFSK MODULATION IN HIGH CHANNEL



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#### 10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY

#### **10.1 MEASUREMENT PROCEDURE**

- (1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (3). Set SPA Trace 1 Max hold, then View.

Note: The method of PKPSD in the KDB 558074 item 10.2 was used in this testing.

#### 10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer To Section 7.2.

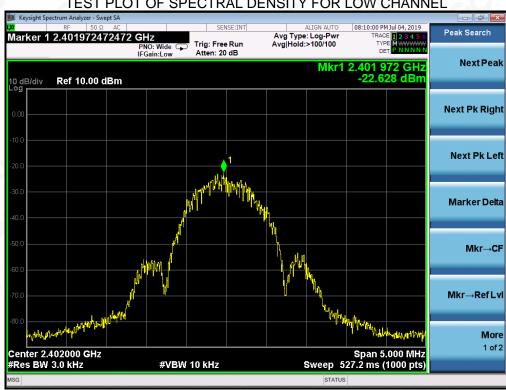
#### **10.3 MEASUREMENT EQUIPMENT USED**

Refer To Section 6.

#### **10.4 LIMITS AND MEASUREMENT RESULT**

Channel No.	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low Channel	-22.628	8	Pass
Middle Channel	-22.139	8	Pass
High Channel	-21.930	8	Pass



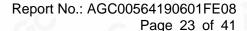




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TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



#### TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL





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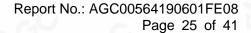
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#### 11. RADIATED EMISSION

#### 11.1. MEASUREMENT PROCEDURE

- 1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- 7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
- 8.If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High Low scan is not required in this case.

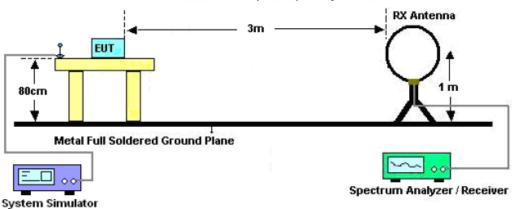




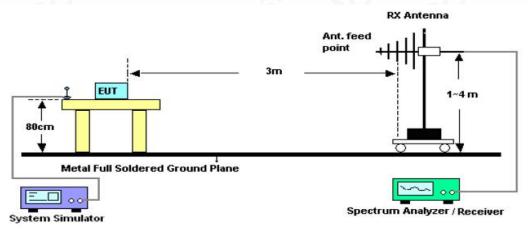


#### 11.2. TEST SETUP

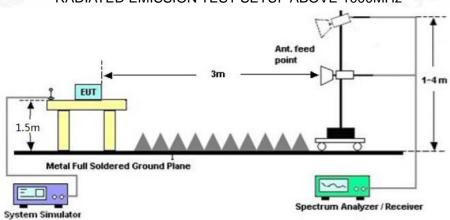
#### Radiated Emission Test-Setup Frequency Below 30MHz



#### RADIATED EMISSION TEST SETUP 30MHz-1000MHz



#### RADIATED EMISSION TEST SETUP ABOVE 1000MHz





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#### 11.3. LIMITS AND MEASUREMENT RESULT

15.209 Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: All modes were tested For restricted band radiated emission,

the test records reported below are the worst result compared to other modes.

#### 11.4. TEST RESULT

#### **RADIATED EMISSION BELOW 30MHZ**

No emission found between lowest internal used/generated frequencies to 30MHz.



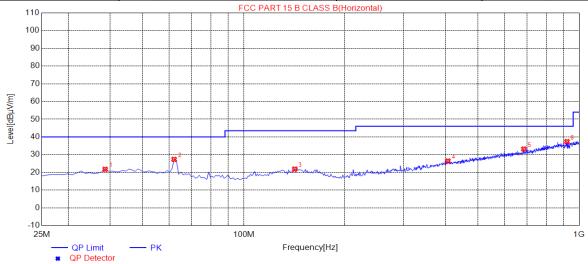
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#### **RADIATED EMISSION BELOW 1GHZ**

EUT	TABLET	Model Name	NET_MAX
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal



NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	38.6500	21.74	14.61	40.00	18.26	100	55	Horizontal
2	62.0500	27.34	13.57	40.00	12.66	200	38	Horizontal
3	142.0000	21.86	14.88	43.50	21.64	200	311	Horizontal
4	406.2250	26.43	19.96	46.00	19.57	100	156	Horizontal
5	684.1000	33.16	25.70	46.00	12.84	200	296	Horizontal
6	920.0500	37.35	30.29	46.00	8.65	200	156	Horizontal

**RESULT: PASS** 



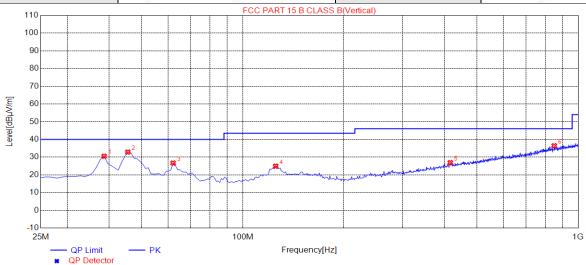
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EUT	TABLET	Model Name	NET_MAX
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical



	NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
Ī	1	38.6500	30.52	14.61	40.00	9.48	100	236	Vertical
	2	45.4750	32.85	14.80	40.00	7.15	100	42	Vertical
	3	62.0500	26.66	13.57	40.00	13.34	100	102	Vertical
	4	125.4250	24.92	13.84	43.50	18.58	100	45	Vertical
3	5	415.9750	26.92	20.14	46.00	19.08	100	290	Vertical
	6	848.8750	36.43	29.28	46.00	9.57	200	1	Vertical

#### **RESULT: PASS**

#### Note:

- 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.
- 2. All test modes had been tested. The mode 1 is the worst case and recorded in the report.





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#### **RADIATED EMISSION ABOVE 1GHZ**

EUT	TABLET	Model Name	NET_MAX
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
46.55	0.08	46.63	74.00	-27.37	peak
41.06	0.08	41.14	54.00	-12.86	AVG
42.15	2.21	44.36	74.00	-29.64	peak
37.33	2.21	39.54	54.00	-14.46	AVG
© .	8		- 60	<u> </u>	<u> </u>
	(dBµV) 46.55 41.06 42.15	(dBµV) (dB) 46.55 0.08 41.06 0.08 42.15 2.21	(dBμV)     (dB)     (dBμV/m)       46.55     0.08     46.63       41.06     0.08     41.14       42.15     2.21     44.36	(dBμV)     (dB)     (dBμV/m)     (dBμV/m)       46.55     0.08     46.63     74.00       41.06     0.08     41.14     54.00       42.15     2.21     44.36     74.00	(dBμV)     (dB)     (dBμV/m)     (dBμV/m)     (dBμV/m)       46.55     0.08     46.63     74.00     -27.37       41.06     0.08     41.14     54.00     -12.86       42.15     2.21     44.36     74.00     -29.64

Factor = Antenna Factor + Cable Loss - Pre-amplifier.

EUT	TABLET	Model Name	NET_MAX
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

Reading         Factor           BµV)         (dB)           3.55         0.08	Emission Level	Limits (dBµV/m)	Margin (dB)	Value Type
. ,	· ` ' /	(dBµV/m)	(dB)	value Type
0.08	10.00			
0.00	43.63	74.00	-30.37	peak
.25 0.08	41.33	54.00	-12.68	AVG
.15 2.21	43.36	74.00	-30.64	peak
7.42 2.21	39.63	54.00	-14.37	AVG
(S)			(8)	
· ·				
	.15 2.21	.15 2.21 43.36	.15 2.21 43.36 74.00	.15 2.21 43.36 74.00 -30.64



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EUT	TABLET	Model Name	NET_MAX
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Horizontal

iency Me	eter Reading	Factor	Emission Level	Limits	Margin	Value Tree
Hz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
.005	47.38	0.14	47.52	74.00	-26.48	peak
.005	42.10	0.14	42.24	54.00	-11.76	AVG
.140	40.77	2.36	43.13	74.00	-30.87	peak
.140	38.98	2.36	41.34	54.00	-12.66	AVG
0	0			0		
c:		0	· ·	100	-66	

EUT	TABLET	Model Name	NET_MAX
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	\/ala Ta
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4880.050	43.38	0.14	43.52	74.00	-30.48	peak
4880.050	39.22	0.14	39.36	54.00	-14.64	AVG
7320.080	40.46	2.36	42.82	74.00	-31.18	peak
7320.080	38.27	2.36	40.63	54.00	-13.37	AVG
		~6 <sup>0</sup>				
temark:	8					
Remark: Factor = Anter	nna Factor + Cable	Loss – Pre-	amplifier.	.0		@





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EUT	TABLET	Model Name	NET_MAX
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

(dD.,) \					
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
46.75	0.22	46.97	74.00	-27.04	peak
43.29	0.22	43.51	54.00	-10.49	AVG
43.84	2.64	46.48	74.00	-27.53	peak
38.99	2.64	41.63	54.00	-12.37	AVG
			-6	<u> </u>	
	46.75 43.29 43.84	46.75     0.22       43.29     0.22       43.84     2.64	46.75     0.22     46.97       43.29     0.22     43.51       43.84     2.64     46.48	46.75     0.22     46.97     74.00       43.29     0.22     43.51     54.00       43.84     2.64     46.48     74.00	46.75     0.22     46.97     74.00     -27.04       43.29     0.22     43.51     54.00     -10.49       43.84     2.64     46.48     74.00     -27.53

EUT	TABLET	Model Name	NET_MAX
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	\/aliva Tima
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4960.013	43.93	0.22	44.15	74	-29.85	peak
4960.013	41.41	0.22	41.63	54	-12.37	AVG
7440.027	40.88	2.64	43.52	74	-30.48	peak
7440.027	38.83	2.64	41.47	54	-12.53	AVG
©		- 60				-
emark:	<u> </u>		20			
actor = Anter	nna Factor + Cable	Loss - Pre-	amplifier			

#### **RESULT: PASS**

#### Note:

Other emissions from 1G to 25 GHz are considered as ambient noise. No recording in the test report.

Factor = Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.

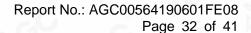
The "Factor" value can be calculated automatically by software of measurement system.



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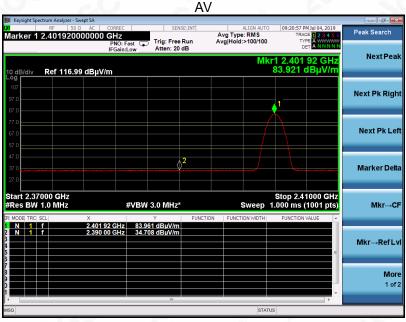


TEST RESULT FOR RESTRICTED BANDS REQUIREMENTS

EUT	TABLET	Model Name	NET MAX
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal







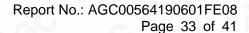
**RESULT: PASS** 



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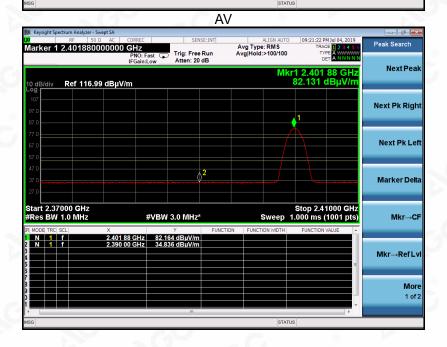
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**EUT TABLET Model Name NET\_MAX Temperature** 25° C **Relative Humidity** 55.4% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Mode 1 **Antenna** Vertical





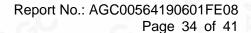
**RESULT: PASS** 



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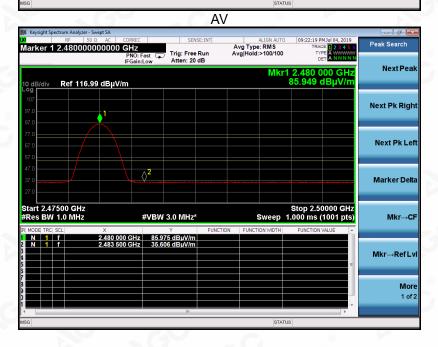
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**EUT TABLET Model Name NET\_MAX Temperature** 25° C **Relative Humidity** 55.4% **Pressure** 960hPa **Test Voltage** Normal Voltage **Test Mode** Mode 3 **Antenna** Horizontal





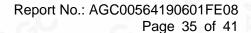
**RESULT: PASS** 



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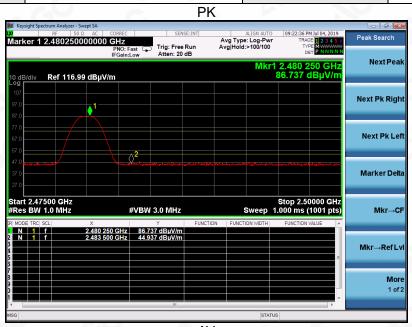
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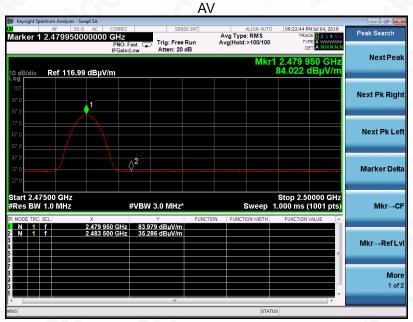
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EUT	TABLET	Model Name	NET_MAX
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical





#### **RESULT: PASS**

**Note**: The factor had been edited in the "Input Correction" of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB( $\mu$ V) to represent the Amplitude. Use the F dB( $\mu$ V/m) to represent the Field Strength. So A=F.



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#### 12. FCC LINE CONDUCTED EMISSION TEST

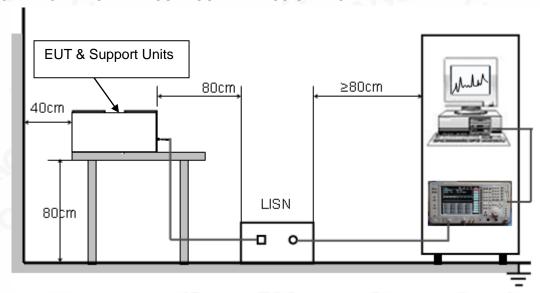
#### 12.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Francis	Maximum RF	Line Voltage
Frequency	Q.P.( dBuV)	Average( dBuV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

#### Note:

- 1. The lower limit shall apply at the transition frequency.
- 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

#### 12.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST





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#### 12.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2. Support equipment, if needed, was placed as per ANSI C63.10.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4. All support equipments received AC120V/60Hz power from a LISN, if any.
- 5. The EUT received DC charging voltage by PC which received AC120V/60Hz power by a LISN...
- 6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8. During the above scans, the emissions were maximized by cable manipulation.
- 9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

#### 12.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

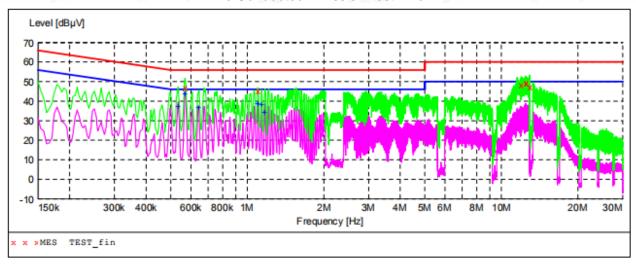
- 1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- 2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
- 3. The test data of the worst case condition(s) was reported on the Summary Data page.





#### 12.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

Line Conducted Emission Test Line 1-L



#### MEASUREMENT RESULT:

6,	/24/2019 11:	16PM						
	Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
	0.570000	46.60	10.9	56	24.4	OP	L1	FLO
	1.102000	45.20	11.5	56	10.8	QP	L1	FLO
	11.978000	48.60	12.0	60	11.4	QP	L1	FLO
	12.510000	49.20	12.0	60	10.8	QP	L1	FLO
	12.546000	49.30	12.0	60	10.7	QP	L1	FLO
	12.902000	47.20	12.1	60	12.8	QP	L1	FLO

#### MEASUREMENT RESULT: "TEST fin2"

6/24/2019 11 Frequency MHz	:14PM Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.534000	37.50	11.0	46	8.5	AV	L1	FLO
0.570000	44.20	10.9	46	1.8	AV	L1	FLO
0.642000	37.10	10.6	46	8.9	AV	L1	FLO
1.102000	38.80	11.5	46	7.2	AV	L1	FLO
1.138000	38.60	11.5	46	7.4	AV	L1	FLO
1.174000	34.60	11.5	46	11.4	AV	L1	FLO



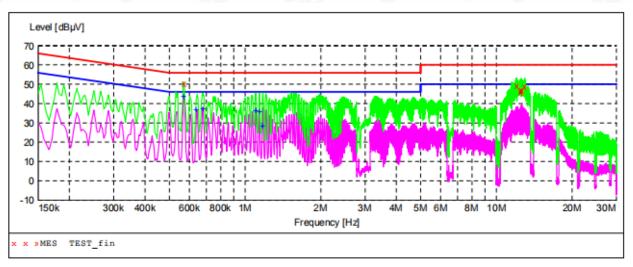
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#### Line Conducted Emission Test Line 2-N



#### MEASUREMENT RESULT: "TEST\_fin"

6/	Z4/2019 10: Frequency MHz	49PM Level dBμV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
	0.570000	50.30	10.9	56	5.7	QP	N	FLO
	12.026000	49.20	12.0	60	10.8	QP	N	FLO
	12.490000	46.80	12.0	60	13.2	QP	N	FLO
	12.526000	45.70	12.0	60	14.3	QP	N	FLO
	12.562000	46.60	12.0	60	13.4	QP	N	FLO
	12.954000	48.70	12.1	60	11.3	QP	N	FLO

#### MEASUREMENT RESULT: "TEST fin2"

6.	/24/2019 10: Frequency MHz	49PM Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
	0.570000	43.90	10.9	46	2.1	AV	N	FLO
	0.642000	36.80	10.6	46	9.2	AV	N	FLO
	0.678000	37.20	10.4	46	8.8	AV	N	FLO
	1.106000	36.50	11.5	46	9.5	AV	N	FLO
	1.142000	36.10	11.5	46	9.9	AV	N	FLO
	1.178000	28.30	11.5	46	17.7	AV	N	FLO

#### **RESULT: PASS**

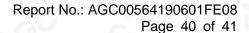
Note: All the test modes had been tested, the mode 1 was the worst case. Only the data of the worst case would be record in this test report.



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#### **APPENDIX A: PHOTOGRAPHS OF TEST SETUP**

RADIATED EMISSION TEST SETUP BELOW 1GHZ



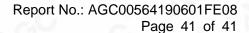
RADIATED EMISSION TEST SETUP ABOVE 1GHZ





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#### CONDUCTED EMISSION TEST SETUP



----END OF REPORT----



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