



FCC TEST REPORT

FCC ID	QYL-5127MODMIN	
Equipment	RFID Module	
Brand Name	Getac	
Model Name	5127 Modular Mini	
Applicant	Getac Technology Corporation.	
	5F., Building A, No. 209, Sec.1, Nangang	
	Rd.,Nangang Dist., Taipei City 11568, Taiwan, R.(D.C.
Standard	47 CFR FCC Part 15.209	

The product was received on May 26, 2020, and testing was started from May 28, 2020 and completed on May 29, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown 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.

Approved by: Allen 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
FR9N1220-12AO	01	Initial issue of report	Jun. 22, 2020



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.209	Transmitter Radiated Emissions	PASS	-
3.3	15.215(c)	Emission Bandwidth	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

None.

Reviewed by: Sam Tsai **Report Producer: Ann Hou**



1 General Description

1.1 Information

1.1.1 **RF General Information**

RF General Information					
Modulation	Ch. Frequency (kHz)	Channel Number	Field Strength (dBuV/m)		
OOK 125 1 70.37					
Note 1: Field strength performed peak level at 1m.					

1.1.2 Antenna Information

	Antenna Category						
\square	Integral antenna (antenna permanently attached)						
	Temporary RF connector provided						
	No temporary RF connector provided Transmit chains bypass antenna and soldered temporary RF connector provided for connected measurement. In case of conducted measurements the transmitter shall be connected to the measuring equipment via a suitable attenuator and correct for all losses in the RF path.						
	External antenna (dedicated antennas)						
	Single power level with corresponding antenna(s).						
	Multiple power level and corresponding antenna(s).						

No.	Ant. Cat.	Ant. Type	
1	Integral	Loop	

1.1.3 Type of EUT

	Operational Condition				
EUT	EUT Power Type From AC Adapter / Battery				
	Type of EUT				
	Stand-alone				
\square	Combined (EUT where the radio part is fully integrated within another device)				
	Combined Equipment - Brand Name / Model No.: HID / B360				
	Plug-in radio (EUT intended for a variety of host systems)				
	Host System - Brand Name / Model No.:				
	Other:				

1.1.4 Test Signal Duty Cycle

	Operated Mode for Worst Duty Cycle					
\boxtimes	Operated normal mode for worst duty cycle					
	Operated test mode for worst duty cycle					
	Test Signal Duty Cycle (x)					
\square	100.00%					



1.2 Testing Applied Standards

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

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- The following reference test guidance is not within the scope of accreditation of TAF:
- KDB 414788 D01 v01r01

1.3 Testing Location Information

	Testing Location						
\square	HWA YA	ADD	:	No. 52, Huaya 1st Rd.,	No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)		
		TEL	:	886-3-327-3456	FAX : 886-3-327-0973		
	Test site Designation No. TW1190 with FCC.						
	JHUBEI	ADD	:	No.8, Ln. 724, Bo'ai St.	No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)		
		TEL	:	886-3-656-9065	FAX : 886-3-656-9085		
				Test site Designation	on No. TW0006 with FCC.		
	Wen Shan ADD : No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)						
		TEL	:	886-3-318-0787	FAX : 886-3-318-0287		
	Test site Designation No. TW1097 with FCC.						

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO01-HY	Edward	22.5~23.4°C / 59~63%	29/May/2020
RF Conducted	TH07-HY	Justin	19.6~24.1°C / 50~56%	28/May/2020
Radiated Emission	03CH03-HY	Jeff	23.5~25.2°C / 55~63%	28/May/2020

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	0.9 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	2.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.7 dB	Confidence levels of 95%
Conducted Emission	1.0 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Condition

Condition Item	Abbreviation/Remark	Remark
-	Tnom	20°C
-	Vnom	120V

2.2 The Worst Case Modulation Configuration

Transmitter Mode	Test Channel	Field Strength	Field Strength
	Frequencies(kHz)	(dBuV/m@1m)	(dBuV/m@3m)
RFID	125	70.37	51.29

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests		
Tests Item	Tests Item AC power-line conducted emissions	
Condition	Condition AC power-line conducted measurement for line and neutral	
Operating Mode	СТХ	
1	Adapter Mode	

Tł	The Worst Case Mode for Following Conformance Tests			
Tests Item	Emission Bandwidth, Field Strength of Fundamental Emissions Transmitter Radiated Unwanted Emissions			
Test Condition	Radiated measurement			
	EUT will be placed in fixed position.			
User Position		mobile position and operati ed three orthogonal planes.		
	EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions.			
Operating Mode	СТХ			
1	Adapter Mode			
	X Plane	Y Plane	Z Plane	
Orthogonal Planes of EUT				
Worst Planes of EUT		V		



2.4 Accessory

Accessories Information					
	Brand Name	Chicony	Model Name	A15-090P1A	
	Power Rating	I/P: 100-240Vac, 1.2A	/P: 100-240Vac, 1.2A, O/P: 19Vdc, 4.74A, 90W		
AC Adapter	AC Power Cord	1.8 meter, non-shielded cable, w/o ferrite core			
	DC Power Cable	1.5 meter, non-shielded cable, with one ferrite core		e ferrite core	
Battery	Brand Name	Getac	Model Name	BP3S1P2100S-02	
	Power Rating	11.1Vdc, 2040mAh	Туре	Li-ion	

Reminder: Regarding to more detail and other information, please refer to user manual.

2.5 Support Equipment

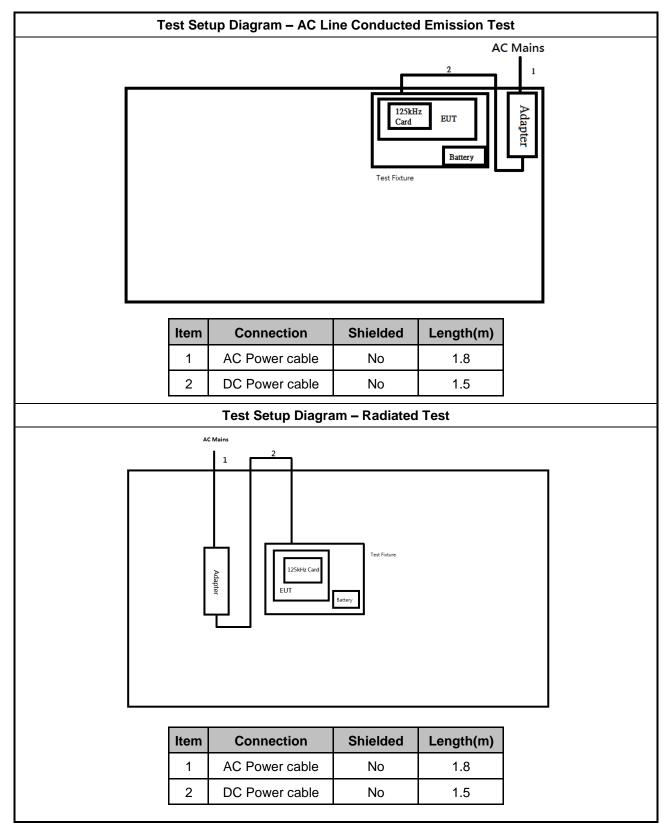
Support Equipment – AC Conduction				
No.	Equipment	Brand Name	Model Name	FCC ID
1	125k Card	SPORTON	SPORTON	-

Support Equipment – Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	125k Card	SPORTON	SPORTON	-

		Support Equipment	t – Radiated	
No.	Equipment	Brand Name	Model Name	FCC ID
1	125k Card	SPORTON	SPORTON	-



2.6 Test Setup Diagram



TEL : 886-3-327-3456 FAX : 886-3-327-0973 Report Template No.: HE1-C4 Ver3.1 FCC ID: QYL-5127MODMIN



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

3.1.2 Measuring Instruments

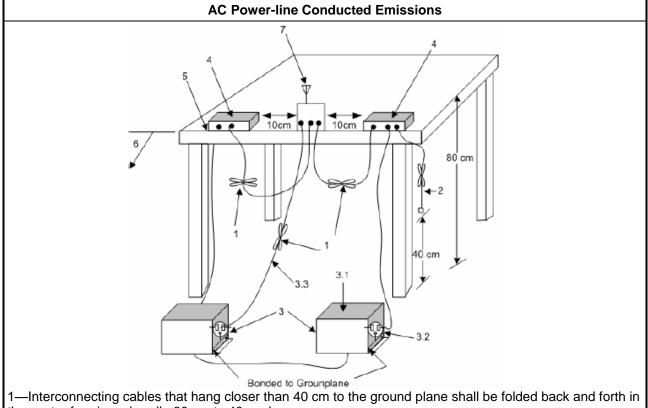
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

	Test Method			
\bowtie	Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.			
\bowtie	If AC conducted emissions fall in operating band, then following below test method confirm final result.			
	 Accept measurements done with a suitable dummy load replacing the antenna under the following conditions: (1) Perform the AC line conducted tests with the antenna connected to determine compliance with FCC 15.207 limits outside the transmitter's fundamental emission band; (2) Retest with a dummy load to determine compliance with FCC 15.207 limits within the transmitter's fundamental emission band. 			
	 For a device with a permanent antenna operating at or below 30 MHz, accept measurements done with a suitable dummy load, in lieu of the permanent antenna under the following conditions: (1) Perform the AC line conducted tests with the permanent antenna to determine compliance with the FCC 15.207 limits outside the transmitter's fundamental emission band; (2) Retest with a dummy load in lieu of the permanent antenna to determine compliance with the FCC 15.207 limits within the transmitter's fundamental emission band; 			



3.1.4 **Test Setup**



the center forming a bundle 30 cm to 40 cm long.

2-The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.

3.1—All other equipment powered from additional LISN(s).

3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.

3.3-LISN at least 80 cm from nearest part of EUT chassis.

4-Non-EUT components of EUT system being tested.

5-Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.

6-Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

-Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A



3.2 Transmitter Radiated Emissions

3.2.1 Transmitter Radiated Emissions Limit

	Transmitter Radiated Emissions Limit				
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)		
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300		
0.490~1.705	24000/F(kHz)	33.8 - 23	30		
1.705~30.0	30	29	30		
30~88	100	40	3		
88~216	150	43.5	3		
216~960	200	46	3		
Above 960	500	54	3		

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: the frequency bands 9-90 kHz, 110-490 kHz measurements employing an average detector and other below 1GHz measurements employing a CISPR quasi-peak detector.

3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

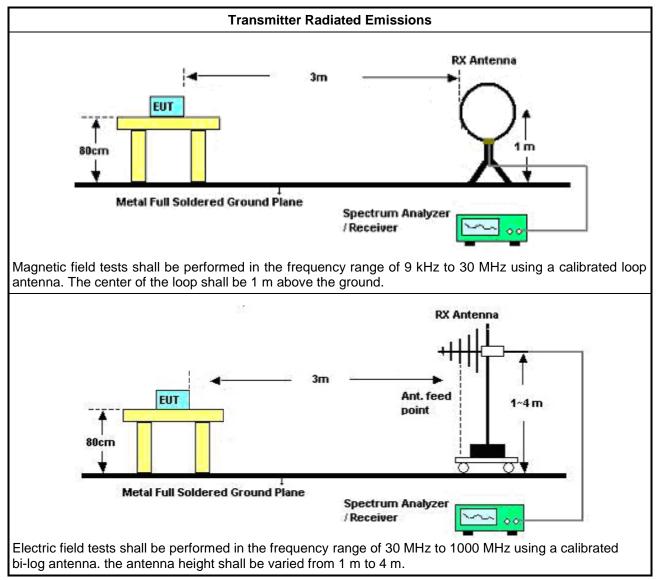


3.2.3 Test Procedures

	Test Method				
\square	Ref	er as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1 GHz and test distance is 3m.			
\boxtimes	9-90	er as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz. The frequency bands) kHz, 110-490 kHz measurements employing an average detector and other below 30MHz asurements employing a CISPR quasi-peak detector. Test distance is 3m.			
	At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the requirements; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be following below methods. Note: If fundamental emission level is smaller than noise at 3m, we will change distance to 1m.				
		The results shall be extrapolated to the specified distance by making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor.			
	The results shall be by using the square of an inverse linear distance extrapolation factor (40 dB/decade).				
\boxtimes	equ	radiated measurement. Loop antenna was rotated about the horizontal and vertical axis and the ipment to be measured and the test antenna shall be oriented to obtain the maximum emitted field ngth level.			
\boxtimes	The	any unwanted emissions level shall not exceed the fundamental emission level.			
\boxtimes	All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.				
\square	KDE	3 414788 Open-Field Test Sites and Chamber Correlation Justification.			
	•	Based on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.			
	•	Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.			



3.2.4 **Test Setup**



3.2.5 **Test Result of Transmitter Radiated Emissions**

Refer as Appendix B



3.3 Emission Bandwidth

3.3.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
N/A	

3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

 Test Method

 Image: Secause the measured signal is CW or CW-like adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

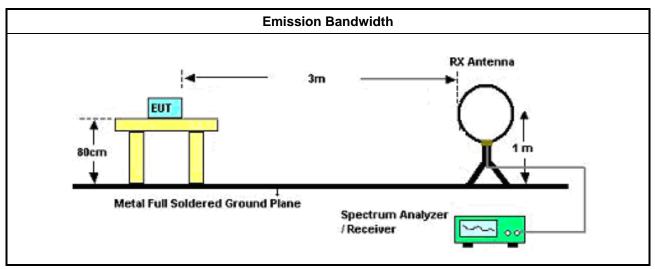
 Image: Secause the measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

 Image: Secause the measurement bandwidth will always follow the RBW and the result will be approximately twice the RBW.

 Image: Secause the measurement bandwidth will always follow the RBW and the horizontal and vertical axis and the RBW.

✓ For radiated measurement. Loop antenna was rotated about the horizontal and vertical axis and the equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted field strength level.

3.3.4 Test Setup



3.3.5 Test Result of Emission Bandwidth

Refer as Appendix C



4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date	
EMC Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2020	08/Apr/2021	
LISN	R&S	ENV216	101274	9kHz ~ 30MHz	03/Jun/2019	02/Jun/2020	
RF Cable-CON	MTJ	RG142	CB001-CO	9kHz ~ 1GHz	09/Sep/2019	08/Sep/2020	
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR	
Impuls Begrenzer Pulse Limiter	nzer SCHWARZBEC VTSD 9561-F		9495	9 kHz ~ 30 MHz	24/Sep/2019	23/Sep/2020	

NCR : Non-Calibration Require

Instrument for Conducted Test

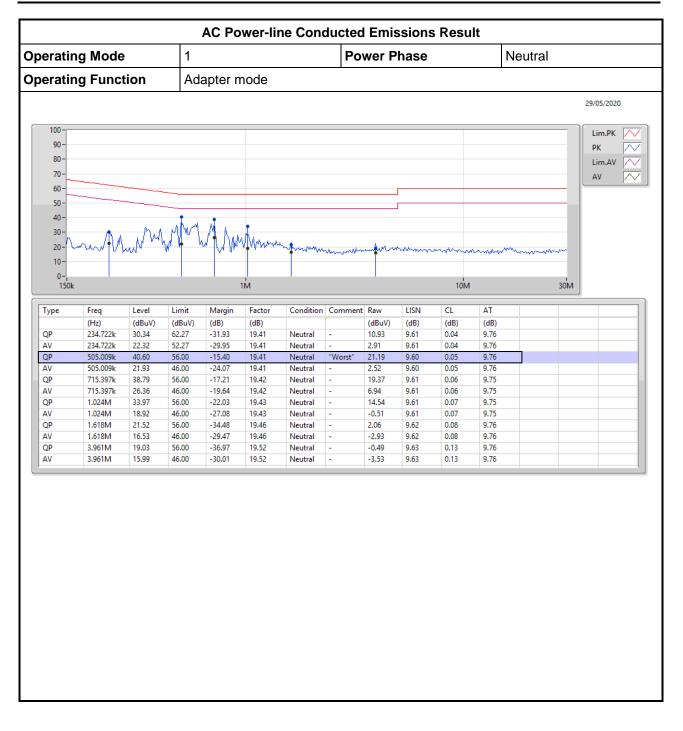
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	10Hz~40GHz	19/Mar/2020	18/Mar/2021
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2020	15/Mar/2021

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date	
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz 3m	30/Aug/2019	29/Aug/2020	
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	14/Apr/2020	13/Apr/2021	
EMI Test Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2020	08/Apr/2021	
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMCI	CBL6112B / N-6-05	22237 / AT-N-0603	30 MHz ~ 1 GHz	19/Apr/2020	18/Apr/2021	
Signal Analyzer	R&S	FSV40	101500	10Hz ~ 40GHz	15/Aug/2019	14/Aug/2020	
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	18/Mar/2020	17/Mar/2021	
Loop Antenna	TESEQ	HLA 6120	31244	9kHz ~ 30MHz	16/Mar/2020	15/Mar/2021	



Appendix A







Summary

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
	-	-	-	-	-	-	-	-	-	-	-	-
SRD	Pass	PK	2.657M	37.70	69.50	-31.80	20.07	3	Horizontal	360	1.00	-



Result

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
SRD	-	-	-	-	-	-	-	-	-	-	-	-
0.125MHz_TX	Pass	PK	125.08k	70.37	105.65	-35.28	20.10	1	Horizontal	192	1.00	-
0.125MHz_TX	Pass	PK	49.608k	49.69	113.67	-63.98	21.27	3	Horizontal	0	1.00	-
0.125MHz_TX	Pass	PK	66.246k	49.56	111.17	-61.61	20.75	3	Horizontal	0	1.00	-
0.125MHz_TX	Pass	PK	90.216k	45.81	108.49	-62.68	20.18	3	Horizontal	0	1.00	-
0.125MHz_TX	Pass	PK	2.657M	37.70	69.50	-31.80	20.07	3	Horizontal	360	1.00	-
0.125MHz_TX	Pass	PK	4.448M	34.90	69.50	-34.60	20.74	3	Horizontal	360	1.00	-
0.125MHz_TX	Pass	PK	6.777M	34.89	69.50	-34.61	21.61	3	Horizontal	360	1.00	-



SRD 28/05/2020 0.125MHz_TX 140 Limit \sim Level \sim 120 - \sim Limit 100- \sim Level 80-60 moundulumment munhand 40-20 -0-115k 135k Height PA Туре Freq Margin Factor Dist Condition Azimuth Comment Raw AF CL Level Limit (dB) (Hz) (dBuV/m) (dBuV/m) (dB) (m) (dBuV) (dB) (dB) (dB) (m) (°) РК 125.08k Horizontal 192 1.00 20.10 50.27 0.10 70.37 105.65 -35.28 20.00 1



PK

90.216k

45.81

108.49

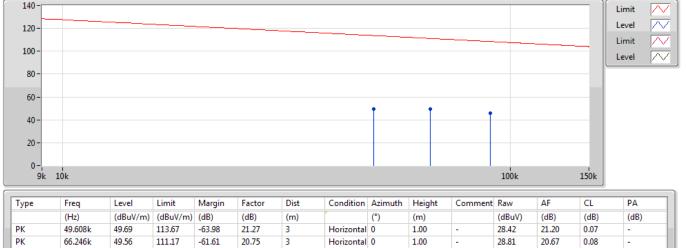
-62.68

20.18

3

28/05/2020

SRD 0.125MHz_TX



Horizontal 0

1.00

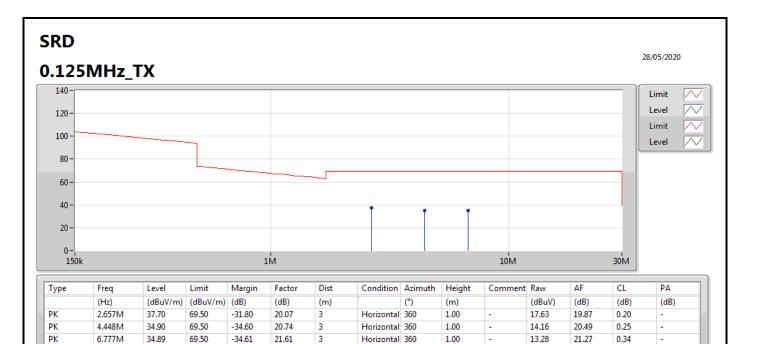
-

25.63

20.09

0.09







Summary

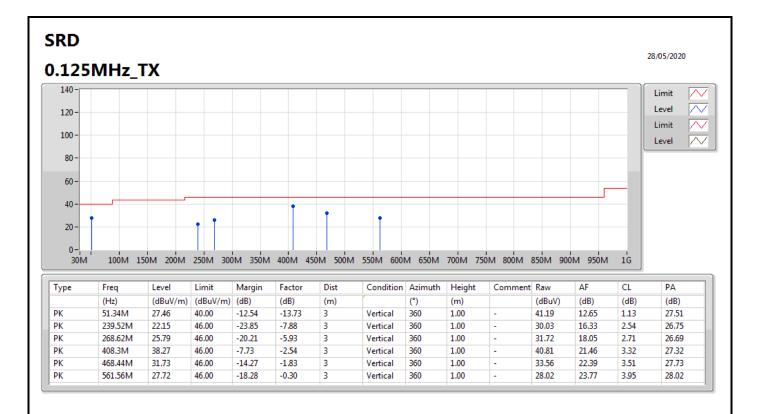
Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
	-	-	-	-	-	-	-	-	-	-	-	-
SRD	Pass	PK	408.3M	38.27	46.00	-7.73	-2.54	3	Vertical	360	1.00	-



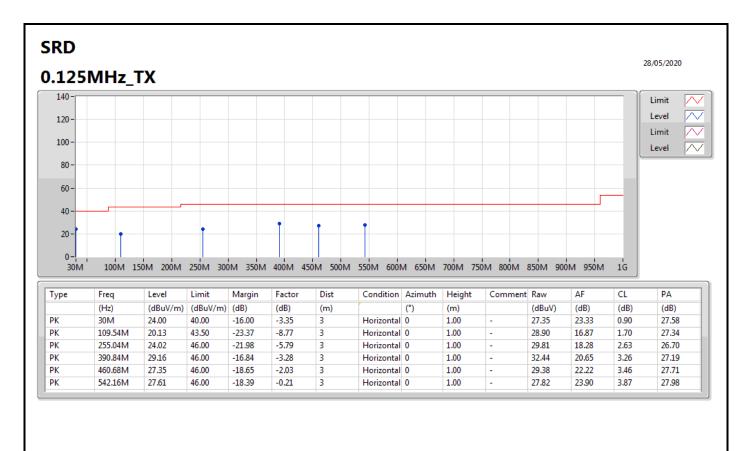
Result

Mode	Result	Туре	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
SRD	-	-	-	-	-	-	-	-	-	-	-	-
0.125MHz_TX	Pass	PK	51.34M	27.46	40.00	-12.54	-13.73	3	Vertical	360	1.00	-
0.125MHz_TX	Pass	PK	239.52M	22.15	46.00	-23.85	-7.88	3	Vertical	360	1.00	-
0.125MHz_TX	Pass	PK	268.62M	25.79	46.00	-20.21	-5.93	3	Vertical	360	1.00	-
0.125MHz_TX	Pass	PK	408.3M	38.27	46.00	-7.73	-2.54	3	Vertical	360	1.00	-
0.125MHz_TX	Pass	PK	468.44M	31.73	46.00	-14.27	-1.83	3	Vertical	360	1.00	-
0.125MHz_TX	Pass	PK	561.56M	27.72	46.00	-18.28	-0.30	3	Vertical	360	1.00	-
0.125MHz_TX	Pass	PK	30M	24.00	40.00	-16.00	-3.35	3	Horizontal	0	1.00	-
0.125MHz_TX	Pass	PK	109.54M	20.13	43.50	-23.37	-8.77	3	Horizontal	0	1.00	-
0.125MHz_TX	Pass	PK	255.04M	24.02	46.00	-21.98	-5.79	3	Horizontal	0	1.00	-
0.125MHz_TX	Pass	PK	390.84M	29.16	46.00	-16.84	-3.28	3	Horizontal	0	1.00	-
0.125MHz_TX	Pass	PK	460.68M	27.35	46.00	-18.65	-2.03	3	Horizontal	0	1.00	-
0.125MHz_TX	Pass	PK	542.16M	27.61	46.00	-18.39	-0.21	3	Horizontal	0	1.00	-











Result

Mode	Result	20dB	FI-20dB	Fh-20dB	OBW	FI-OBW	Fh-OBW	Limit					
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Range)					
SRD	-	-	-	-	-	-	-	-					
0.125MHz_TnomVnom	Pass	448	124.89200k	125.34000k	1.195k	124.49825k	125.69365k	-					





