

# TEST REPORT

FCC MPE Test for SDR-33-BTF  
Certification

APPLICANT  
ADVANCED RF TECHNOLOGIES, INC

REPORT NO.  
HCT-RF-1911-FC030

DATE OF ISSUE  
November 29, 2019

**HCT Co., Ltd.**

74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA  
Tel. +82 31 634 6300 F ax. +82 31 645 6401



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**TEST  
REPORT**

FCC MPE Test for  
SDR-33-BTF

**REPORT NO.**

HCT-RF-1911-FC030

**DATE OF ISSUE**

November 29, 2019

**FCC ID**

N52-SDR-33-BTF

**Applicant**

**ADVANCED RF TECHNOLOGIES, INC**

3116 WEST VANOWEN STREET, BURBANK, CA 91505, USA

**Eut Type  
Model Name**

**REPEATER**

**SDR-33-BTF**

This test results were applied only to the test methods required by the standard.

**Tested by**

**Kyung Soo Kang**

(signature)

**Technical Manager**

**Jong Seok Lee**

(signature)

**HCT CO., LTD.**

*Soo Chan Lee*

SooChan Lee

/ CEO

## REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	November 29, 2019	Initial Release

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

## RF Exposure Statement

### 1. LIMITS

According to § 1.1310 and § 2.1091 RF exposure is calculated.

(B) Limits for General Population/Uncontrolled Exposures				
Frequency range (MHz)	Electric field Strength (V/m)	Magnetic field Strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
0.3 - 1.34.....	614	1.63	*(100)	30
1.34 - 30.....	824/f	2.19/f	*(180/ f <sup>2</sup> )	30
30 - 300.....	27.5	0.073	0.2	30
300 - 1500.....	.....	.....	f/1500	30
1500 - 100.000.....	.....	.....	1.0	30

F = frequency in MHz

\* = Plane-wave equivalent power density

### 2. MAXIMUM PERMISSIBLE EXPOSURE Prediction

Prediction of MPE limit at a given distance

$$S = PG/4\pi R^2$$

S = Power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

- BRS/EBS – LTE 20 MHz (Uplink)

Max Peak output Power at antenna input terminal	34.00	dBm
Max Peak output Power at antenna input terminal	2511.89	mW
Prediction distance	200.000	cm
Prediction frequency	2594.050	MHz
Antenna Gain(typical)	20.400	dBi
Antenna Gain(numeric)	109.648	-
Power density at prediction frequency( S)	0.5479	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

- BRS/EBS – LTE 20 MHz (Downlink)

Max Peak output Power at antenna input terminal	34.00	dBm
Max Peak output Power at antenna input terminal	2511.89	mW
Prediction distance	40.000	cm
Prediction frequency	2591.675	MHz
Antenna Gain(typical)	5.300	dBi
Antenna Gain(numeric)	3.388	-
Power density at prediction frequency( S)	0.4233	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

- BRS/EBS – LTE 20 MHz\_3 Carrier(60 MHz) (Uplink)

Max Peak output Power at antenna input terminal	34.00	dBm
Max Peak output Power at antenna input terminal	2511.89	mW
Prediction distance	200.000	cm
Prediction frequency	2594.050	MHz
Antenna Gain(typical)	20.400	dBi
Antenna Gain(numeric)	109.648	-
Power density at prediction frequency( S)	0.5479	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

- BRS/EBS – LTE 20 MHz\_3 Carrier(60 MHz) (Downlink)

Max Peak output Power at antenna input terminal	34.00	dBm
Max Peak output Power at antenna input terminal	2511.89	mW
Prediction distance	40.000	cm
Prediction frequency	2591.675	MHz
Antenna Gain(typical)	5.300	dBi
Antenna Gain(numeric)	3.388	-
Power density at prediction frequency( S)	0.4233	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

- BRS/EBS – 5G NR 100 MHz (Uplink)

Max Peak output Power at antenna input terminal	34.00	dBm
Max Peak output Power at antenna input terminal	2511.89	mW
Prediction distance	200.000	cm
Prediction frequency	2594.050	MHz
Antenna Gain(typical)	20.400	dBi
Antenna Gain(numeric)	109.648	-
Power density at prediction frequency( S)	0.5479	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>

- BRS/EBS – 5G NR 100 MHz (Downlink)

Max Peak output Power at antenna input terminal	34.00	dBm
Max Peak output Power at antenna input terminal	2511.89	mW
Prediction distance	40.000	cm
Prediction frequency	2591.675	MHz
Antenna Gain(typical)	5.300	dBi
Antenna Gain(numeric)	3.388	-
Power density at prediction frequency( S)	0.4233	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm <sup>2</sup>