

## RF Exposure Report

**Report No.:** SA170320C02

**FCC ID:** ACQ-DSR800

**Test Model:** DSR800

**Received Date:** Mar. 20, 2017

**Test Date:** Mar. 23 ~ Apr. 27, 2017

**Issued Date:** May 08, 2017

**Applicant:** ARRIS Group, Inc.

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)



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### Release Control Record

Issue No.	Description	Date Issued
SA170320C02	Original release.	May 08, 2017



## 2 RF Exposure

### 2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

$R$  = distance between observation point and center of the radiator in cm

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as Mobile Device.

## 3 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	TX Function	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
CDD Mode						
WLAN 2412~2462	1TX	20.11	2.33	20	0.035	1
	2TX	22.86	5.14	20	0.126	1
WLAN 5180~5240	1TX	19.63	4.17	20	0.048	1
	2TX	23.59	6.65	20	0.210	1
WLAN 5745~5825	1TX	19.94	5.58	20	0.071	1
	2TX	22.73	7.77	20	0.223	1
Beamforming Mode						
Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	
WLAN 2412~2462	22.00	5.14	20	0.103	1	
WLAN 5180~5240	23.16	6.65	20	0.190	1	
WLAN 5745~5825	22.64	7.77	20	0.219	1	

Note:

$$2412\sim 2462\text{MHz Directional gain} = 10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N] = 5.14\text{dBi}$$

$$5180\sim 5240\text{MHz Directional gain} = 10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N] = 6.65\text{dBi}$$

$$5745\sim 5825\text{MHz Directional gain} = 10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N] = 7.77\text{dBi}$$

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