

Test report No:  
NIE: 87658RAN.004

## Assessment report

### RF EXPOSURE REPORT ACCORDING TO

#### FCC 47 CFR Part 2.1093

#### FCC 47 CFR Part 1.1307

|                                             |                                                                                                                                                                                                                                                   |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (*) Identification of item under evaluation | Headunit with Display and TP, USB, BT and WLAN                                                                                                                                                                                                    |
| (*) Trademark                               | HARMAN                                                                                                                                                                                                                                            |
| (*) Model and /or type reference            | SPACE 4 BASE 1.2A (Attached Display)                                                                                                                                                                                                              |
| (*) Other identification of the product     | FCC ID : T8GSPACE4B12A<br>IC : 6434A-SPACE4B12A<br>HW version : PV<br>SW version : 16                                                                                                                                                             |
| (*) Features                                | Bluetooth and WLAN                                                                                                                                                                                                                                |
| (*) Manufacturer                            | HARMAN BECKER AUTOMOTIVE SYSTEMS GMBH<br>BECKER-GOERING-STR. 16; 76307 KARLSBAD<br>GERMANYBECKER-GOERING-STR. 16; 76307<br>KARLSBAD GERMANY                                                                                                       |
| Test method requested, standard             | FCC 47 CFR Part 2.1093. Radiofrequency radiation exposure evaluation: portable devices.<br>FCC 47 CFR Part 1.1307: Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.          |
| Summary                                     | IN COMPLIANCE                                                                                                                                                                                                                                     |
| Approved by (name / position & signature)   | Manuel García<br>Antennas Laboratory Manager<br><br><div>74862741H<br/>MANUEL<br/>GARCÍA<br/>(C:A29507456)</div> <div>Firmado digitalmente<br/>por 74862741H<br/>MANUEL GARCÍA<br/>(C:A29507456)<br/>Fecha: 2026.10.18<br/>07:34:24 +02'00'</div> |
| Date of issue                               | 2026-10-18                                                                                                                                                                                                                                        |
| Report template No                          | FAN24_03<br>(*) "Data provided by the client"                                                                                                                                                                                                     |

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## Data provided by the client

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item under evaluation", "Trademark", "Model and/or type reference", "General description of the device", "Other identification of the product").
2. Maximum output power, maximum antenna gain and use distance information.
3. The device under evaluation consists of a Headunit with Display and TP, USB, BT and WLAN.

DEKRA Testing and Certification S.A.U. declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

## Identification of the client

HARMAN BECKER AUTOMOTIVE SYSTEMS GMBH

BECKER-GOERING-STR. 16; 76307 KARLSBAD GERMANYBECKER-GOERING-STR. 16; 76307 KARLSBAD GERMANY

## Document history

| Report number | Date       | Description   |
|---------------|------------|---------------|
| 87658RAN.004  | 2026-10-18 | First release |

## **Appendix A: FCC RF Exposure assessment result**

## General description of the device under evaluation

Table 1 provides details for the RF Evaluation, based on the following declared device specifications:

**Description and technologies:** the device under evaluation consists of a Head unit with Display and Touch panel (TP) with the following features: USB, BT and WLAN. For RF Exposure evaluation, only transmission technologies: BT and WLAN are taken into account.

RF Exposure assessment for WLAN technology has been already evaluated through SAR tests and results, and compliance are stated in report DEKRA Testing and Certification, S.A.U. test report num. 87658RAN.002A1. Maximum measured values will be used for simultaneous transmission calculus as part of the RF Exposure assessment.

**Evaluation Distance:** The device is intended for use in both extremity and body exposure conditions. According to the manufacturer, the separation distance between the radiating structures of the device and nearby users will be greater than 0 cm for extremity exposure condition and 2 cm for body exposure condition. To perform the assessment, a conservative evaluation distance of 0 cm for extremity exposure condition and 2 cm for body exposure condition has been used.

### Maximum output power:

Values corresponding to WLAN maximum output power have been declared by the device manufacturer (maximum output power values stated in manufacturer's technical description document).

Values corresponding to conducted output power for Bluetooth have been measured and stated into DEKRA Testing and Certification, S.A.U. test report num. 80708RRF.006.

**Antennas:** the device supports several antennas for the BT and WLAN transmitting technologies:

- "ANT 1" antenna for Bluetooth transmissions.
- "ANT 2" antenna for Bluetooth and Wi-Fi transmissions
- "ANT 3" antenna for Bluetooth transmissions.

Maximum peak antenna gain values have been declared by the device manufacturer (maximum peak gain stated in antenna manufacturer's datasheet)

The following table shows the information provided above:

| Technology / Mode | Operating Band | Frequency under evaluation (MHz) | Maximum Conducted Output Power (Incl. Tune-Up) (dBm) | Antenna 1 peak gain (dBi) | Antenna 2 peak gain (dBi) | Antenna 3 peak gain (dBi) | Maximum E.R.P. (dBm) | Maximum E.R.P. (mW) | Maximum E.I.R.P. (dBm) | Maximum E.I.R.P. (mW) |
|-------------------|----------------|----------------------------------|------------------------------------------------------|---------------------------|---------------------------|---------------------------|----------------------|---------------------|------------------------|-----------------------|
| 802.11b/g/n       | 2.4 GHz        | 2412 - 2484                      | 15.40                                                | -                         | -0.40                     | -                         | 12.85                | 19.28               | 15.00                  | 31.62                 |
| 802.11a/n/ac      | U-NII-1        | 5150 - 5250                      | 9.30                                                 | -                         | -0.40                     | -                         | 6.75                 | 4.73                | 8.90                   | 7.76                  |
| 802.11a/n/ac      | U-NII-3        | 5650 - 5850                      | 9.30                                                 | -                         | -0.40                     | -                         | 6.75                 | 4.73                | 8.90                   | 7.76                  |
| Bluetooth (ANT1)  | 2.4 GHz        | 2400 - 2483.5                    | 3.49                                                 | 0.34                      | -                         | -                         | 1.68                 | 1.47                | 3.83                   | 2.42                  |
| Bluetooth (ANT2)  | 2.4 GHz        | 2400 - 2483.5                    | 2.98                                                 | -                         | -0.40                     | -                         | 0.43                 | 1.10                | 2.58                   | 1.81                  |
| Bluetooth (ANT3)  | 2.4 GHz        | 2400 - 2483.5                    | 2.07                                                 | -                         | -                         | 1.37                      | 1.29                 | 1.35                | 3.44                   | 2.21                  |

**Table 1:** Equipment specifications

**Simultaneous Transmission Conditions:**

The device supports the following simultaneous transmissions modes:

| Simultaneous technologies and modes                                                            |
|------------------------------------------------------------------------------------------------|
| Bluetooth (ANT1) 2.4 GHz + Bluetooth (ANT2) 2.4 GHz + Bluetooth (ANT3) 2.4 GHz +<br>WIFI 5 GHz |
| Bluetooth (ANT1) 2.4 GHz + Bluetooth (ANT2) 2.4 GHz + Bluetooth (ANT3) 2.4 GHz +<br>WIFI 5 GHz |

## Evaluation Results

The determination of the exemption for the minimum intended use distance of 2 cm will result as follows:

| Technology / Mode | Operating Band | Frequency under evaluation (MHz) | Distance (cm) | Maximum Conducted Power (mW) | Maximum E.R.P. (mW) | §1.1307(b)(3).i.(C) Exposure Limit (mW) | § 1.1307(b)(3).i.(B) Exposure Limit (mW) | Verdict |
|-------------------|----------------|----------------------------------|---------------|------------------------------|---------------------|-----------------------------------------|------------------------------------------|---------|
| 802.11b/g/n       | 2.4 GHz        | 2412 - 2484                      | 2.00          | 34.67                        | N/A                 | N/A                                     | 38.07                                    | Pass*   |
| 802.11a/n/ac      | U-NII-1        | 5150 - 5250                      | 2.00          | N/A                          | 4.73                | 7.68                                    | N/A                                      | Pass*   |
| 802.11a/n/ac      | U-NII-3        | 5650 - 5850                      | 2.00          | N/A                          | 4.73                | 7.68                                    | N/A                                      | Pass*   |
| Bluetooth (ANT1)  | 2.4 GHz        | 2400 - 2483.5                    | 2.00          | N/A                          | 1.47                | 7.68                                    | N/A                                      | Pass    |
| Bluetooth (ANT2)  | 2.4 GHz        | 2400 - 2483.5                    | 2.00          | N/A                          | 1.10                | 7.68                                    | N/A                                      | Pass    |
| Bluetooth (ANT3)  | 2.4 GHz        | 2400 - 2483.5                    | 2.00          | N/A                          | 1.35                | 7.68                                    | N/A                                      | Pass    |

**Table 2:** FCC Exemption Evaluation Result

The evaluation for extremity exposure condition according to the minimum intended use distance of 0 cm (5mm applied for the evaluation) will be as follows:

| Technology / Mode | Operating Band | Frequency under evaluation (MHz) | Distance (cm) | Maximum Conducted Power (mW) | § 1.1307(b)(3).i.(B) Exposure Limit (mW) | Verdict     |
|-------------------|----------------|----------------------------------|---------------|------------------------------|------------------------------------------|-------------|
| 802.11b/g/n       | 2.4 GHz        | 2412 - 2484                      | 0.50          | 34.67                        | 6.78                                     | SAR needed* |
| 802.11a/n/ac      | U-NII-1        | 5150 - 5250                      | 0.50          | 8.51                         | 3.73                                     | SAR needed* |
| 802.11a/n/ac      | U-NII-3        | 5650 - 5850                      | 0.50          | 8.51                         | 3.42                                     | SAR needed* |
| Bluetooth         | 2.4 GHz        | 2400 - 2483.5                    | 0.50          | 2.24                         | 6.79                                     | Pass        |
| Bluetooth         | 2.4 GHz        | 2400 - 2483.5                    | 0.50          | 1.99                         | 6.79                                     | Pass        |
| Bluetooth         | 2.4 GHz        | 2400 - 2483.5                    | 0.50          | 1.61                         | 6.79                                     | Pass        |

**Table 3:** FCC Exemption Evaluation Result for Extremity exposure condition

The computed value(s) for Bluetooth is below the exemption limit(s), so these modes meet the requirements stated in FCC 47 CFR Part 1.1307.

The exemption does not apply to all technologies; therefore, a separate RF exposure evaluation is required. Maximum measured SAR values for 802.11 b/g/a/n/ac where measurements were needed to verify compliance are stated into DEKRA Testing and Certification, S.A.U. test report num. 87652RAN.002A1:

| Technology / Mode | Operating Band | Frequency under evaluation (MHz) | Maximum SAR 1-g (W/kg) | SAR 1-g Limit (W/kg) | Maximum SAR 10-g (W/kg) | SAR 10-g Limit (W/kg) | Verdict |
|-------------------|----------------|----------------------------------|------------------------|----------------------|-------------------------|-----------------------|---------|
| 802.11 b          | 2.4 GHz        | 2412.00                          | 0.457                  | 1.600                | 0.198                   | 4.000                 | Pass    |
| 802.11 ac         | U-NII-1        | 5190.00                          | 0.304                  | 1.600                | 0.066                   | 4.000                 | Pass    |
| 802.11n           | U-NII-3        | 5745.00                          | 0.417                  | 1.600                | 0.106                   | 4.000                 | Pass    |
| 802.11 ac         | U-NII-3        | 5745.00                          | 0.316                  | 1.600                | 0.062                   | 4.000                 | Pass    |

**Table 4:** SAR testing Results

As the compliance criterion is fulfilled, each transmitting mode is in compliance with the RF Exposure requirements

#### Simultaneous transmission assessment:

The device under evaluation is able to transmit simultaneously using Bluetooth (ANT1) 2.4 GHz + Bluetooth (ANT2) 2.4 GHz + Bluetooth (ANT3) 2.4 GHz transmitters, therefore the most conservative approach for the evaluation of the simultaneous transmission will be:

| Simultaneous technologies and modes                                                         | Exposure condition | Result<br>( $\sum$ of Pout/Pmax ratios) | Verdict<br>( $\sum \leq 1$ ) |
|---------------------------------------------------------------------------------------------|--------------------|-----------------------------------------|------------------------------|
| Bluetooth (ANT1) 2.4 GHz + Bluetooth (ANT2) 2.4 GHz + Bluetooth (ANT3) 2.4 GHz + WIFI 5 GHz | Body               | 0.77                                    | Pass                         |
| Bluetooth (ANT1) 2.4 GHz + Bluetooth (ANT2) 2.4 GHz + Bluetooth (ANT3) 2.4 GHz + WIFI 5 GHz | Extremity          | 0.89                                    | Pass                         |

**Table 5:** Simultaneous Result

As the compliance criteria is fulfilled, simultaneous transmission condition is in compliance with the RF exposure requirements.

#### Spot-Check Criteria in Accordance with FCC KDB 484596v03:

As the device under evaluation is a variant of the parent model SPACE 4 BASE 1.1A (Attached Display), a SAR spot-check has been performed. The corresponding results are documented in test report 87658RAN.002A1.

The simultaneous transmission evaluation was performed for the variant to verify compliance with the spot-check criteria specified in FCC KDB 484596v03. The Total Exposure Ratios (TERs) obtained for the parent model and the variant are presented below.

#### Total Exposure Ratio (TER)

##### Parent model:

- **Body exposure condition:**  $TER_{RBody} = 0.89$
- **Extremity exposure condition:**  $TER_{RExtremity} = 0.91$

##### Variant:

- **Body exposure condition:**  $TER_{VBody} = 0.77$
- **Extremity exposure condition:**  $TER_{VExtremity} = 0.89$

#### Determination of the Maximum Permissible TER Difference

The margin (M) is defined as:  $M = TER_T - TER_R = 1 - TER_R$

Accordingly, the margins for the parent model are calculated as follows:

- **Body exposure condition:**  
M for Body exposure condition:  $M = 1 - 0.89 = 0.11$
- **Extremity exposure condition:**  
M for Extremity exposure condition:  $M = 1 - 0.91 = 0.09$

As both margin values are below 0.5, the maximum permissible TER difference, (dTER\_max), is 25%, in accordance with the applicable criteria specified in FCC KDB 484596v03.

### TER Difference Calculation

The relative difference between the TER values of the parent model and the variant is calculated as follows:

$$dTER = |TER_V - TER_R| / TER_R$$

- **Body exposure condition:**  
 $dTER = |0.77 - 0.89| / 0.89 = 13.48\%$
- **Extremity exposure condition:**  
 $dTER = |0.89 - 0.91| / 0.91 = 2.20\%$

The calculated TER differences are 13.48% for the body exposure condition and 2.20% for the extremity exposure condition. Both values are below the applicable maximum permissible difference of 25%.

Therefore, the variant meets the applicable SAR spot-check criteria specified in FCC KDB 484596v03 for both body and extremity exposure conditions.

## Appendix B: FCC RF Exposure information

## RF Exposure determination of exemption

According to FCC 47 CFR §1.1307 (b)(3) Determination of exemption:

(i) For single RF sources (i.e., any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2), a single RF source is exempt if:

(A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);

(B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold  $P_{th}$  (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive).  $P_{th}$  is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left( \frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

$d$  = the separation distance (cm);

(C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least  $\lambda/2\pi$ , where  $\lambda$  is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of  $\lambda/4$  or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

TABLE 1 TO §1.1307(b)(3)(i)(C)—SINGLE RF SOURCES SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

| RF Source frequency (MHz) | Threshold ERP (watts) |
|---------------------------|-----------------------|
| 0.3-1.34                  | $1,920 R^2$ .         |
| 1.34-30                   | $3,450 R^2/f^2$ .     |
| 30-300                    | $3.83 R^2$ .          |
| 300-1,500                 | $0.0128 R^2 f$ .      |
| 1,500-100,000             | $19.2 R^2$ .          |

(ii) For multiple RF sources: Multiple RF sources are exempt if:

(A) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A).

(B) in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure\ Limit_k} \leq 1$$

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(B) of this section for Pth, including existing exempt transmitters and those being added.

b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(C) of this section for Threshold ERP, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

Pi = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm (inclusive).

Pth,i = the exemption threshold power (Pth) according to paragraph (b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i.

ERPj = the ERP of fixed, mobile, or portable RF source j.

ERPth,j = exemption threshold ERP for fixed, mobile, or portable RF source j, at a distance of at least  $\lambda/2\pi$  according to the applicable formula of paragraph (b)(3)(i)(C) of this section.

Evaluated,k = the maximum reported SAR or MPE of fixed, mobile, or portable RF source k either in the device or at the transmitter site from an existing evaluation at the location of exposure.

Exposure Limit,k = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source k, as applicable from §1.1310 of this chapter.

The available maximum time-averaged power or effective radiated power (ERP), can be calculated using the following formula to assess compliance with the Exemption Limits:

$$P_{E.I.R.P.} = P_T + G_T - L_C$$

Where:

P<sub>T</sub> = transmitter time-averaged output power (including Duty Cycle and tune-up tolerance, if applicable)

G<sub>T</sub> = gain of the transmitting antenna

L<sub>C</sub> = signal attenuation in the connecting cable between the transmitter and the antenna if applicable

$$P_{E.R.P.} = P_{E.I.R.P.} - 2.15 \text{ dB}$$