

Confidentiality Class Ericsson Internal	External Confidentiality Label	Document Type	Sheet 1 (4)
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Exhibit 12 – Technical Circuit Description: External Antenna

Ericsson AB requests to authorize additional antennas for Part 96 operations with the FCC Hardware Certified Part 96 CBSD radio device.

Radio Vendor: Ericsson AB
Radio Product Name: Radio 4408 B48
Radio Model Number: KRC 161 746/1
Radio FCC ID: TA8AKRC161746-1

Radio dynamic range:

- Maximum linear conducted power rating at output connector into 50 ohms that meets all OOB requirements [zero additional attenuation, highest power setting allowed, for use with lowest gain external antennas] (dBm): 37dBm per port or 43 dBm total power
- Minimum linear conducted power rating at output connector into 50 ohms that meets all OOB requirements [maximum additional linear attenuation, lowest power setting allowed, for use with highest gain external antennas] (dBm): 10dBm per port or 16 dBm total power
- Note: use of an external cable introduces additional losses that may be compensated appropriately by increasing the radio's power level (reducing the attenuator setting). This cable compensation may be achieved during radio setup.

The Original Equipment Manufacturer (OEM) vendor of the radio states that the use of the following listed external antennas meets all requirements for Part 96 operations. The following specific external antennas may be used in conjunction with this model radio at the appropriate listed power settings.

These antennas will allow this radio to meet the appropriate Part 96 requirements for Maximum EIRP, at below:

- 30 dBm EIRP (for Category A operations), or
- 47 dBm/10MHz EIRP (for Category B operations).

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Total conducted power is shown, for each antenna, with varying signal operating bandwidths.

Table: CBRS Band 48 External antennas authorized by the Original Equipment Manufacturer for use with this radio:

Antenna Configuration	Antenna Vendor	Antenna Model Number	Antenna Main Beam Peak Gain [dBi]	LTE Carrier Bandwidth [MHz]	Maximum Total Conducted Power [dBm]	EIRP [dBm/10MHz]	EIRP per Bandwidth [dBm]	Operational Category [A / B]
1	JMA	CX14OMI236-1C	5	10	42.0	47.0	47.0	B
				20	43.0	45.0	48.0	
2	JMA	CX16OMI236-1C	5	10	42.0	47.0	47.0	B
				20	43.0	45.0	48.0	
3	JMA	CX16OMI224-1H	6.1	10	40.9	47.0	47.0	B
				20	43.0	46.1	49.1	
4	JMA	CX16OMI218-1P	5.3	10	41.7	47.0	47.0	B
				20	43.0	45.3	48.3	
5	JMA	DX10FRO260-00 or 06	15.5	10	31.5	47.0	47.0	B
				20	34.5	47.0	50.0	
6	JMA	DX12FRO260-20 or 26	14.8	10	32.2	47.0	47.0	B
				20	35.2	47.0	50.0	
7	Amphenol	C2U3MT360X06Fxys0	8.1	10	38.9	47.0	47.0	B
				20	41.9	47.0	50.0	
8	Amphenol	2C2U3MT360X06Fxys0	5.8	10	41.2	47.0	47.0	B
				20	43.0	45.8	48.8	
9	Amphenol	4U4MT360X06Fxys0	5.7	10	41.3	47.0	47.0	B
				20	43.0	45.7	48.7	



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10	Amphenol	2C4U3MT360X06Fwxys0	5.9	10	41.3	47.0	47.0	B
				20	43.0	45.7	48.7	
11	Amphenol	2U3MX065X06Fxys0	11.6	10	35.4	47.0	47.0	B
				20	38.4	47.0	50.0	
12	Amphenol	4U4MX065X06Fxys0	11.3	10	35.7	47.0	47.0	B
				20	38.7	47.0	50.0	
13	Amphenol	2C4U3MX065X06Fwxys0	8.9	10	38.1	47.0	47.0	B
				20	41.1	47.0	50.0	
14	Kathrein	84010555 / 84010556	7	10	40.0	47.0	47.0	B
				20	43.0	47.0	50.0	
15	Kathrein	84010557 / 84010558	6.3	10	40.7	47.0	47.0	B
				20	43.0	46.3	49.3	
16	Kathrein	84010603 / 84010604	6.5	10	40.5	47.0	47.0	B
				20	43.0	46.5	49.5	
17	Kathrein	84010564	11.5	10	35.5	47.0	47.0	B
				20	38.5	47.0	50.0	
18	CommScope	VVSSP-360S-F	4.9	10	42.1	47.0	47.0	B
				20	43.0	44.9	47.9	
19	CommScope	NNVVSSP-360S-FM	5.7	10	41.3	47.0	47.0	B
				20	43.0	45.7	48.7	
20	CommScope	V4SSPP-360S-F	5.4	10	41.6	47.0	47.0	B
				20	43.0	45.4	48.4	
21	CommScope	VVSSP-65S-R1B (Canister)	9.8	10	37.2	47.0	47.0	B
				20	40.2	47.0	50.0	



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22	CommScope	VVSSP-65S-R1BV2 (Panel)	10.4	10	36.6	47.0	47.0	B
				20	39.6	47.0	50.0	
23	CommScope	SSPX31OR-V2	18.1	10	28.9	47.0	47.0	B
				20	31.9	47.0	50.0	
24	MobileMark	EDN32-3700	5	10	42.0	47.0	47.0	B
				20	43.0	45.0	48.0	
25	Rosenberger	CA- AEOIOITJTVEX360F- JS06	9	10	38.0	47.0	47.0	B
				20	41.0	47.0	50.0	

The Antenna datasheets see Annex 1.