



Spectrum Newsletter

FAQs3 - Frequently Asked Questions 3

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Spectrum Management - AF - Telecom



SUMMARY

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1 | INTRODUCTION AND GOALS

The aim of this document is to inform users of new issues emerging from our radiofrequency spectrum community, as well as updating published information from previous spectrum newsletters.

This is likely to be the last newsletter published prior to Games time. We hope they have been helpful and supported users concerning spectrum management for Rio 2016. The respective policies and procedures regarding spectrum management have also been published.

If there are any other doubts or comments, please don't hesitate to contact our spectrum team via spectrum@rio2016.com or testandtag@anatel.gov.br.

Please note that the complete spectrum documentation can be obtained for download at: <http://www.rio2016.com/transparencia/documentos> (PT) and <http://www.rio2016.com/transparencia/en/documents> (EN)

2 | QUESTIONS

a. As the Anatel Authorisation Act was only published in Portuguese, we are having difficulty understanding it. What does the content refer to?

Please find below some important items extracted from the Act:

1. ATO Nº XXXX, DE 29 DE DEZEMBRO DE 2015: this is the Act's number and the date it was published. In this example, the Act number is XXXX and it was published on 29 December 2015.
2. R E S O L V E: Art 1º Autorizar Comitê Organizador dos Jogos Olímpicos Rio 2016, CNPJ nº11.866.015/0001-53, a realizar operação temporária de equipamentos de radiocomunicação nas seguintes condições: this text means that Anatel decided to authorise Rio 2016 to temporarily operate the radio equipment, according to certain conditions. Considering regulatory issues, all authorisations were issued to Rio 2016. However, you can also identify the entity operating those frequencies in the Act. Anatel is aware of the entities authorised to operate radio devices and will test and tag the corresponding devices accordingly.
3. I - Local(is): a) Estação 1: Embaixador Abelardo Bueno, 3401, Barra da Tijuca, Authorised Entity Radio- G2 - Rio de Janeiro/RJ - Coord.: Lat.22S582399 / Long.43W241128: according to this information, one should understand the following: the authorised radio station number 1 , located at the address and geographical coordinates described, in this case Embaixador Abelardo Bueno, 3401, Barra da Tijuca - Rio de Janeiro - Lat.22S582399 / Long.43W241128 , which refers in this case to the group G2 = Olympic Park / Rio Centro/ Olympic Village is intended for the authorised entity. The spectrum team have created this for their own analysis and is not relevant for users. For example, if you, instead of identifying your authorised venue itself, find the Gs (Groups) like in this example, don't worry, they will cover your requested venue. For additional clarification, note that: G1= Group of venues in the Deodoro cluster, G2= Group of venues in the Olympic Park, Riocentro and the Olympic and Paralympic Village G3= Olympic Golf Course and Pontal, G4= Marina da Glória, G5 = Copacabana venues, G6= Lagoa , G7= Group of venues in the Maracanã zone , G8= Olympic Stadium, G9 = Sambódromo, G10 = Deodoro Accommodation Village, G11+ G12= Barra Accommodation Villages, G13=Rio 2016 Headquarters RHQ; MOC and TOC), and G14 to G18 = the football stadiums outside Rio: Brasília, São Paulo, Belo Horizonte, Salvador and Manaus respectively.
4. Período: 5 de Julho de 2016 a 25 de Setembro de 2016: this is the period the authorisation was issued for. In this case, from 5 July 2016 to 25 September 2016, covering the entire Games period. Users must verify some additions in this item, showing possible period restrictions across the total period. It may happen, for

example, that there is an addition to the content indicating that one authorisation is specifically for ceremonies time.

5. Frequências, largura da faixa de operação e potência máxima de transmissão (table in the Act): this is the requested technical information table. Users should only note the frequencies approved and issued for each numbered station, confirming that the frequencies they have applied for are those frequencies listed. In other rows the spectrum bandwidth, power, antenna characteristics, covered area and other items only used for Anatel's calculations are listed. When applying the next step for test and tagging when available, only take note of the frequencies and venues you have applied for. The Anatel team working on the spectrum desks and offices also has available the complete profiles of these authorisations, meaning they are able to help users whenever necessary. It is important to note the Anatel team on the spectrum desks is not authorised and will not proceed with any configurations and/or set up user equipment for test and tagging.

6. Estação X ; Serviço : 019 - Limitado Privado; Tipo: Ponto Área; Tipo de Estação : ESTACOES MOVEIS ; Qtd ; Móveis/Terminais : n - important in this item (table in the Act) is the number of authorised radio mobile devices for Estação 1 (Station 1) . It is important as this is the number of devices to be tagged by the test and tagging procedure. Regarding quantities, there is a limit, which may be seen in item IV of the Act. "Qtd" in this case means the number of "base stations" authorised. For example, in the Act, the first line reads: the station authorised number "x" meaning the station authorised the temporary spectrum use for limited private service. It is a point to area transmission, from an authorised base station "x", with a total of "n" mobile (terminal) devices associated.

7. Having the Authorisation Act to hand and the schedule for the equipment shipment, please start preparing your request for test and tagging. You may send requests to testandtag@anatel.gov.br and spectrum@rio2016.com. Guidance for test and tagging may be found in the spectrum newsletter 08/2016, available through the link <http://www.rio2016.com/transparencia/en/documents>

b. How may I apply for a licence during Games time?

A licence request may be made through the Excel spreadsheet V4.0, available for download at <http://www.rio2016.com/transparencia/en/documents> by the spectrum customer in the case of: (i) re-licence if user is experiencing interference with the authorised spectrum; (ii) a failed test and tagging; (iii) no licence available for the equipment the user brought and intends to access the Rio 2016 venues, i.e. cases where the entity has not applied for spectrum by the proper established periods.

In case (i), the spectrum management team and more specifically Anatel will act promptly to find an alternative for users to be able to keep running their operations, by directing their teams present at the spectrum desks and VTOs (Venue Technology Offices), after identifying the incident's severity level and having informed the Technology Operations Centre (TOC), to either solve immediately the offending issue or

assign immediately a new available frequency in that spectrum range to be applied. The assignment procedure will be conducted based on the information available at the time and location where the spectrum is being operated, and will be processed on a case-by-case basis. After testing and approving the availability for the new proposed frequency(ies), the user shall immediately submit a request to Rio 2016 via spectrumoperations@rio2016.com to formalise that application. It is also important to note that spectrum incidents, like any other technology incidents, should be reported through the service desk, either by emailing servicedesk@rio2016.com or by calling 0800-722-2016.

For cases (ii) and (iii), the spectrum team and more specifically Anatel's personal working at the spectrum desks, VTOs and TOC will make all efforts to support the Olympic and Paralympic family users to deal with their spectrum needs. The adopted premise is to provide the required spectrum **approval or rejection** on the same day the application is being made, provided the request is filed early in the morning. It is very important to note **there is no guarantee of an assignment for late orders**. Such requests will be dealt with on a best effort scenario. Rio 2016 temporary spectrum applicants should take note, as spectrum availability is very low at this time.

Potential users wishing to proceed with late requests will be guided by Anatel personnel at the spectrum desks according to a general guidance book available for consultation. Late requests must be made by completing the Excel spreadsheets V 4.0 available for download at <http://www.rio2016.com/transparencia/en/documents> and submitting to spectrumoperations@rio2016.com for due processing. Anatel personnel working on frequency application processing will make all efforts to guarantee prompt processing for late requests. Again, there is no guarantee of assignment for late orders.

Also note that for new users full contact information is needed in the "General Information" field in the Excel Spreadsheet Form.

Upon receiving the Authorisation Act licence from Anatel, print the document and contact the respective spectrum desk to proceed with the test and tagging process. In cases of a failed T&T or a rejection from Anatel, bring the unlicensed equipment for a "DO NOT USE" tag.

c. How may I proceed with radiofrequency spectrum requests for use outside Rio 2016 venues?

Rio 2016 is managing spectrum exclusively inside its facilities (venues/clusters). Tools are not available in the Committee to manage radiofrequencies deployed outside its facilities.

Users must apply for radio frequencies outside the intended Rio 2016 locations, requesting spectrum for temporary use as a regular temporary user directly to the regulatory body, Anatel. If the potential spectrum applicant is a foreign company, a consultancy will be required for the process. Spectrum temporary use will be regularly

charged by Anatel in this case. Further information on this subject can be found at <http://www.anatel.gov.br/grandeseventos/pt-br/espectro>, also available in English.

The technical data required for applications outside Rio 2016 venues is the same as described in the spectrum newsletter 06/2015 for Rio 2016 requests.

To optimise spectrum management during Games time, Anatel, in agreement with a Rio 2016 requirement, has published Act number 50.627/2016, which exempts some types of radio device on a temporary and precarious basis from the need to request spectrum temporary licences for Rio 2016 Games-time coverage. The majority of Wi-Fi routers, wireless microphones and IEM devices (equipment deploying low-radiation spread spectrum technology and other digital modulation technologies) are exempt from spectrum licensing as they are operated outside the Rio 2016 venues' security perimeter. Other general radio equipment, such as handhelds/walkie-talkies, wireless cameras and satellite SNGs will require authorisation in advance. Further information can be found at <http://www.anatel.gov.br/grandeseventos/pt-br/dispensa-ute>, also available in English.

If you will need additional consultancy for spectrum requesting outside Rio 2016 facilities, please contact Rio 2016 spectrum or Anatel for further guidance.

d. When does test and tagging begin and what are the procedures for scheduling with Anatel?

Once you have the "Authorisation Act" and scheduling for the equipment shipment, you may proceed with the request for test and tagging. You can send your scheduling proposal to testandtag@anatel.gov.br and spectrum@rio2016.com in accordance with procedures depicted in the spectrum newsletter 08/2016.

As for satellite earth stations (TES and PES) test and tagging (T&T) procedures, it is strongly recommended that applicants request their licences as soon as possible, in order to allow better planning for T&T scheduling. Anatel personnel working at Rio 2016 venues will visit each earth station site. These visits aim to verify the earth station operations' compliance with its temporary spectrum licences and perform test & tagging (T&T). It will also permit collecting additional technical details of each earth station, in order to facilitate the radiomonitoring operations. To optimise this process, Anatel requests all earth station operators to keep the station licensing documents (i.e. Anatel Authorisation Act) near the station during the whole event, presenting it to Anatel staff whenever necessary.

e. What are the tags that will be available for test and tagging results? For example, tags for "All Venues", "Storage Only", "Do Not Use", etc.?

Although you have requested your radio spectrum for specific venues, Anatel will tag your authorised devices according to the table below. Remember to run your operations from the venues you have applied for. Spectrum assignment is tight and spectrum

management expects users NOT to operate outside their requested venues. This will avoid unexpected harmful interferences.

FACILITIES	TAG NOMENCLATURES
All Venues	ALL
Barra Olympic Park / Riocentro / Olympic and Paralympic Village	BOP
Pontal / Olympic Golf Course	RDB
International Broadcast Centre / Studio Tower/ Main Press Centre	IBC
Marina da Glória	GLO
Fort Copacabana / Beach Volleyball Arena	COP
Lagoa Stadium	LAG
Deodoro Olympic Park	DEO
Olympic Stadium	OLS
Maracanã / Maracanãzinho	MAP
Sambódromo	SBD
Ceremonies	CER
Mané Garrincha Stadium	MGA
Corinthians Arena	SPA
Mineirão	MIN
Fonte Nova Arena	FNA
Amazônia Arena	AMZ
	STORAGE ONLY
	DO NOT USE

f. Where are spectrum desks available for test and tagging radio equipment and what are their operational periods during Games time?

Spectrum desks at venues	Operating period	Operating hours
International Broadcast Centre (IBC)		7.00am to 10.00pm
Main Press Centre (MPC)		
Olympic and Paralympic Village (OLV)		
Riocentro Common Domain (RID)		8.00am to 8.00pm. Operating hours may change based on the schedule for the end of competitions in each venue.
Fort Copacabana (FTC)		
Olympic Stadium (OLS)	OLY - 22/7 to 21/8	
Marina da Glória (GLO)	PAR - 30/8 to 14/9	
Lagoa Stadium (LAG)		
Deodoro Aquatics Centre (DAQ)		
Mané Garrincha Stadium (MGA) - Brasília		
Mineirão (MIN) - Belo Horizonte		
Fonte Nova Arena (FNA) - Salvador		
Corinthians Arena (SPA) - São Paulo		
Amazônia Arena (AMZ) - Manaus		
Uniforms and Accreditation Centre (UAC)		
Maracanã (MRC)	OLY - 22/7 to 21/8	
	OLY - 22/7 to 21/8	

g. Since late orders require two months to be returned after requests have entered the spectrum, how are applications entered after June 2016 going to be processed? Is there a guarantee or deadline for replying to customers?

New applications submitted from June 2016 and entering the Games-time period in July 2016 will be considered **NOT RELEVANT** requests and will be processed on a best-effort basis, meaning that Rio 2016 spectrum management will give neither a guarantee of success nor a deadline for reply. This is an important notice for Rio 2016 temporary spectrum potential new applicants, recognising that the spectrum is already congested and scarce in various frequency ranges across Rio 2016 venues/facilities. The objective for this procedure is to mitigate possible unexpected interferences coming from untimely last minute orders.

h. Where can I find the Rio 2016 radiofrequency official spectrum documents?

Refer to the Rio 2016 website for the official spectrum documentation. The Radiofrequency Management Plan, the Spectrum Control Plan, the Spectrum Newsletters 1 to 9, the spectrum guidance for Games Time and the spreadsheet for bulky submissions V 4.0 are available for download at:

<http://www.rio2016.com/transparencia/en/documents> (EN) and
<http://www.rio2016.com/transparencia/documentos> (PT).

Spectrum documentation is also available for consultation from the Spectrum Policies and Procedures (PPs) available from the Rio 2016 collaboration.

i. We are planning to operate cellular backpack cameras (LIVE-U/TVU, etc.) inside Rio 2016 venues. Is it necessary to request approval for this kind of devices?

Rio 2016 spectrum management will require previous approval for backpack cameras entering its facilities, and control for the maximum number of devices approved to operate simultaneously in those locations.

The basic requirement for approval is that ONLY equipment certified by Anatel (stamp on it) in Brazil will be eligible for request and allowed to enter Rio 2016 facilities. Security has been directed to screen and block entrance of untagged devices. In addition, according to Brazilian regulations, equipment without certification cannot operate outside the venues as well.

To simplify procedures, Rio 2016 (spectrum@rio2016.com) and/or spectrumoperations@rio2016.com will answer requests, emailing applicants with a message of compliance for the temporary use of equipment for a specific venue and for a defined number of authorised units. With this email to hand, the applicant should go to the spectrum desks for tagging procedures.

When making a request, applicants should inform Rio 2016 of the period, venue, contacts and technical details: service; backpack camera; equipment model/manufacturer; and number of devices.

For eventual single dongles fixed on a camera, its use will be permitted and it will not be necessary to request approval.

j. How may I apply for an earth station licence? Is it necessary to have previously contracted the satellite capacity to be used by the earth station? Should this capacity be contracted only from a Brazilian satellite provider?

Spectrum management cannot process incomplete forms. If your satellite capacity is not booked yet, Rio 2016 will be unable to proceed with the spectrum request and you won't be authorised to operate your earth station inside Rio 2016 facilities. For the special case of the Rio 2016 Games, you will also be able to use foreign satellite service providers. The procedures to be followed are explained for service types C and D in the spectrum newsletter 06/2015. Be aware that, for satellite earth station licence

applications, a letter from the satellite provider must be included in the order. The letter format is explained in the referred newsletter 06/2016 (page 13).

If you intend to operate satellite services, please apply for your TES or PES temporary spectrum licence as soon as possible. It is very important for Anatel to be prepared for radiomonitoring and possible interference resolution support, thus maintaining a higher level of service. After receiving the Authorisation Act, don't forget to promptly schedule for test and tagging so that the Anatel team may check your uplink facility and its compliance with the licence. Additional information for T&T and satellite earth stations is available in the spectrum newsletter 08/2016.

k. We need to know if there is a way to register the frequencies for all venues at one time, as in the forms there is only the option of venue by venue.

To maximise spectrum optimisation, Rio 2016 spectrum management has opted to not allow a single all-venue request. However, Rio 2016 is trying to simplify the job of requesting venue by venue, by allowing users to apply for common domains, so that devices will be used inside the various venues on those common domains. For this specific procedure of applying for the common domains of each zone, you must email spectrumoperations@rio2016.com that you intend to use "all over" the venues inside that area (group of venues) .

For example, apply for Barra Common Domain, Riocentro Common Domain, Maracanã Common Domain, Deodoro Common Domain and venues outside of these common domains. This will significantly reduce the number of rows to fill.

It is also important to note that, as the application is made for a wide area, the chance of succeeding with the request is diminished. For this reason, we strongly recommend applicants to apply only for those sites they truly intend to operate.

l. Regarding spectrum authorisation procedures, if we are leasing radios from a Brazilian service provider, who should proceed with the frequency coordination, i.e. request the spectrum and test and tag?

If you are leasing services or radio devices from a third party, this contractor is responsible for requesting the spectrum, obtaining the authorisation and scheduling test and tagging (T&T) with Anatel, providing the final user with the radio ready for use. T&T procedures are detailed in the spectrum newsletter 08/2016. Note that this procedure is valid only for accredited organisations from the Olympic and Paralympic families.

m. What is the deadline for requesting spectrum through the spectrum portal in the Rate Card and through the Excel spreadsheet form V 4.0?

The deadline for requesting spectrum through the spectrum portal is 5 July 2016. From this deadline, new spectrum applications will be received through the form in the excel spreadsheet V 4.0 until the end of Games time. Applications made through the spreadsheet should always

be forwarded as soon as possible to spectrumoperations@rio2016.com. When an application is approved or rejected, they will be returned to the applicant with feedback. When approved, the client must schedule the test and tagging, a mandatory procedure for entering venues during security screening.

n. Should a given SSID (like PRIV2016-xxxxxxx) be configured to our access points within our authorised spectrum space?

Yes. According to spectrum newsletter 05/2015, APs should be configured with the template presented, to permit spectrum coordination to easily identify the user, should an issue arise. Spectrum management is aware that some users may have trouble in changing their standard SSID format, already pre-programmed on their devices. In this case, spectrum@rio2016.com will verify and approve a non-standard deployment on a case-by-case analysis.

06.2016

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Rio 2016 Organising Committee for the
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